Submissions Received After the Close of the Examination

TR010038

A47 North Tuddenham to Easton

Last updated: 26 July 2022
Date Examination Closed: 12 February 2022
Date of Recommendation Report: 12 May 2022
Date of Decision: 12 August 2022

Submissions made after the Examination closed (Appended below)			
Number	Date submission received by PINS	Name (description of corres)	Date submission forwarded to SoS
Recommendation Stage			
001	06/04/2022	Bryan Robinson re: letter from Natural England	12/05/2022
002	10/05/2022	CEPP	12/05/2022
003	10/05/2022	CEPP	12/05/2022
004	10/05/2022	CEPP	12/05/2022
005	10/05/2022	CEPP	12/05/2022
006	10/05/2022	CEPP	12/05/2022
Decision Stage			
007	20/07/2022	Brown&Co on behalf of Honingham Aktieselskab	20/07/2022
008	26/07/2022	Mr. Neil Alston	26/07/2022
009	26/07/2022	Bryan Robinson	10/08/2022
010	05/08/2022	Richard Hawker comments	05/08/2022
011	08/08/2022	George Josselyn on behalf of A C Meynell	09/08/2022
012	11/08/2022	George Josselyn on behalf of A C Meynell	11/08/2022
013	11/08/2022	National Highways	11/08/2022
Submissions made in response to SoS consultation (Not appended)			
Number	Date submission received by PINS	Name (description of corres)	Date submission forwarded to SoS
SoS Consultation 1			
001c	15/06/2022	Anglian Water	16/06/2022
002c	15/06/2022	Bryan Robinson	16/06/2022
003c	14/06/2022	CEPP	16/06/2022
004c	14/06/2022	CEPP – Appendix B	16/06/2022
005c	14/06/2022	CEPP – Appendix D	16/06/2022
006c	15/06/2022	National Highways	16/06/2022
007c	15/06/2022	Norfolk County Council	16/06/2022
008c	15/06/2022	Richard Hawker - Ecology	16/06/2022
009c	15/06/2022	Richard Hawker - Traffic	16/06/2022
SoS Consultation 2			
010c	08/07/2022	A C Meynell	09/07/2022
011c	05/07/2022	Anglian Water - A	06/07/2022
012c	05/07/2022	Anglian Water - B	06/07/2022
013c	08/07/2022	Bryan Robinson	09/07/2022

014c	08/07/2022	CEPP	09/07/2022
015c	08/07/2022	Gordon and Jacqueline Bambridge	09/07/2022
016c	08/07/2022	National Highways	09/07/2022
017c	07/07/2022	Natural England	07/07/2022
018c	12/07/2022	Natural England – Late submission	12/07/2022
019c	08/07/2022	Richard Hawker	09/07/2022
020c	08/07/2022	Wensum Valley Alliance	09/07/2022

Submission number: 001

Date submission received by PINS: 06/04/2022

Name: Bryan Robinson

Description: Re letter from Natural England

From: [redacted]
To: A47 NorthTuddenham to Easton
Subject: Natural England notification on nutrients in River Wensum SAC
Date: 06 April 2022 09:16:05
Attachments: [redacted]

Dear Inspector Hunter,

A47 North Tuddenham to Easton (TR010038)

I do not know whether you have been advised of the recent letter dated 16 March 2022 from Natural England sent to Local Authorities in Norfolk concerning "potential to affect water quality resulting in adverse nutrient impacts on habitats sites".

The concerns relate to levels of Phosphorus in the River Wensum SAC and the Norfolk Broads. As a result currently the local planning authorities are not authorising new housing sites within the catchments until a methodology for neutrality is ascertained and agreed.

I attach a copy of the letter for your information.

Whilst it is appreciated that there are no specific references in the letter to road schemes, there is nevertheless the potential that small increases to volumes of phosphorus generated by these works could affect nutrient levels in the River Wensum via the drainage basins for which are in close proximity to the River Tud, a principle tributary of the Wensum.

As a response to a definitive risk notified by NE, I suggest that yourself, and/or the Secretary of State, may wish to seek expert advice on this issue, including any possible necessary mitigation of the design, before making a determination on the scheme

Bryan Robinson (ref 20028154)

Date: 16 March 2022

To: LPA Chief Executives & Heads of Planning,
County Council Chief Executives and Heads of Planning,
EA Area and National Team Directors,
Planning Inspectorate,
Natural Resources Wales (Cross border sites only) &
Secretary of State for Department for Levelling Up Housing & Communities (DLUHC)

BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T [redacted]

Dear Sir / Madam

Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitats sites.

1.0 Summary

This letter sets out Natural England's advice for development proposals that have the potential to affect water quality in such a way that adverse nutrient impacts on designated habitats sites[1] cannot be ruled out.

It also provides an update to those Local Planning Authorities (LPAs) whose areas include catchments where Natural England has already advised on how to assess the nutrient impacts of new development and mitigate any adverse effects, including through application of the nutrient neutrality methodology. It includes:

- Supporting Information (Annex A) which summarises the key tools and guidance documents available and how to take account of certain issues in any Habitats Regulations Assessment (HRA)
- a national map showing the affected catchments (Annex B)
- a list of habitats sites in unfavourable condition due to nutrients, where new development may have an adverse effect by contributing additional nutrients and therefore where nutrient neutrality is a potential solution to enable development to proceed (Annex C)
- a national generic Nutrient Neutrality Methodology (attached in covering email with this letter)
- a nutrient assessment methodology decision tree (Annex D)
- a flow diagram of the HRA process (Annex E)
- guidance on thresholds for insignificant effects for phosphorus discharges to ground (Annex F)
- Natural England Area Team contacts for each habitats site and catchment (Annex G)
- Catchment Specific Nutrient Neutrality Calculators and associated Calculator Guidance (attached in covering email with this letter)
- Site specific catchment maps (attached in covering email with this letter)
- Site specific evidence documents (new catchments only - attached in covering email with this letter)
- Nutrient Neutrality Principles (attached in covering email with this letter)

[1] Habitat sites are sites which are protected by the Habitats Regulations and includes Special Areas of Conservation (SAC) and Special Protection Areas (SPA).Any proposals that could affect them require a Habitats Regulations Assessment (HRA). Ramsar sites are also included as these are protected as a matter of government policy and also require a HRA where proposals may affect them.

- Nutrient Neutrality – A Summary Guide to Nutrient Neutrality (attached in covering email with this letter)

Natural England advises you, as the Competent Authority under the Habitats Regulations, to carefully consider the nutrients impacts of any new plans and projects (including new development proposals) on habitats sites and whether those impacts may have an adverse effect on the integrity of a habitats site that requires mitigation, including through nutrient neutrality.

This letter provides advice on the assessment of new plans and projects under Regulation 63 of the Habitats Regulations. The purpose of that assessment is to avoid adverse effects occurring on habitats sites as a result of the nutrients released by those plans and projects. This advice does not address the positive measures that will need to be implemented to reduce nutrient impacts from existing sources, such as existing developments, agriculture, and the treatment and disposal of wastewater. It proposes that nutrient neutrality might be an approach that planning authorities wish to explore.

This letter is being sent to the Environment Agency (EA) and all Heads of Planning and Chief Executives for the Local Planning Authorities (LPAs) which are affected by this advice as well as the following:

- The Planning Inspectorate as the Competent Authority for appeals and local plan examinations.
- Secretary of State for the Department of Levelling Up, Housing and Communities (DLUHC) as Competent Authority for called in decisions/appeals.
- County Councils where there is a 2-tier authority.
- Natural Resources Wales (for cross border sites).

NE will also be writing to Ofwat and water companies to inform them of our advice.

2.0 Background

In freshwater habitats and estuaries, poor water quality due to nutrient enrichment from elevated nitrogen and phosphorus levels is one of the primary reasons for habitats sites being in unfavourable condition. Excessive levels of nutrients can cause the rapid growth of certain plants through the process of eutrophication. The effects of this look different depending on the habitat, however in each case, there is a loss of biodiversity, leading to sites being in 'unfavourable condition'. To achieve the necessary improvements in water quality, it is becoming increasingly evident that in many cases substantial reductions in nutrients are needed. In addition, for habitats sites that are unfavourable due to nutrients, and where there is considerable development pressure, mitigation solutions are likely to be needed to enable new development to proceed without causing further harm.

In light of this serious nutrient issue, Natural England has recently reviewed its advice on the impact of nutrients on habitats sites which are already in unfavourable condition. Natural England is now advising that there is a risk of significant effects in more cases where habitats sites are in unfavourable condition due to exceeded nutrient thresholds. More plans and projects are therefore likely to proceed to appropriate assessment.

The principles underpinning HRAs are well established[2]. At the screening stage, plans and projects should only be granted consent where it is possible to exclude, on the basis of objective information, that the plan or project will have significant effects on the sites concerned. Where it is not possible to rule out likely significant effects, plans and projects should be subject to an appropriate assessment. That appropriate assessment must contain complete, precise and definitive findings which are capable of removing all reasonable scientific doubt as to the absence of adverse effects on the integrity of the site.

[2] See, amongst others Case C-127/02 *Waddenvereniging and Vogelsbeschermingvereniging* (Waddenzee); *R (Champion) v North Norfolk DC* [2015] EKSC 52 (Champion); C-323/17 *People Over Wind, Peter Sweetman v Coillte Teoranta* (People Over Wind); C-461/17 *Brian Holohan and Others v An Bord Pleanála* (Holohan); Joined Cases C-293/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and Others v College van gedeputeerde staten van Limburg and Other* (the Dutch Nitrogen cases).

Appropriate assessments should be made in light of the characteristics and specific environmental conditions of the habitats site. Where sites are already in unfavourable condition due to elevated nutrient levels, Natural England considers that competent authorities will need to carefully justify how further inputs from new plans or projects, either alone or in combination, will not adversely affect the integrity of the site in view of the conservation objectives. This should be assessed on a case-by-case basis through appropriate assessment of the effects of the plan or project. In Natural England's view, the circumstances in which a Competent Authority can allow such plans or projects may be limited. Developments that contribute water quality effects at habitats sites may not meet the no adverse effect on site integrity test without mitigation.

Mitigation through nutrient neutrality offers a potential solution. Nutrient neutrality is an approach which enables decision makers to assess and quantify mitigation requirements of new developments. It allows new developments to be approved with no net increase in nutrient loading within the catchments of the affected habitats site.

Where properly applied, Natural England considers that nutrient neutrality is an acceptable means of counterbalancing nutrient impacts from development to demonstrate no adverse effect on the integrity of habitats sites and we have provided guidance and tools to enable you to do this.

3.0 Natural England's Role and Advice

Natural England is the government's adviser for the natural environment in England. As a statutory consultee in the planning and environmental assessment processes we provide advice to planning authorities to support them in making plans and decisions that conserve and enhance the natural environment and contribute to sustainable development.

In reviewing our advice on water quality effects on habitats sites Natural England has:

- Undertaken an internal evidence review to identify an initial list of water dependent habitats sites (which includes their underpinning Sites of Special Scientific Interest) that are in unfavourable condition due to elevated nutrient levels (phosphorus or nitrogen or both). These sites are listed in Annex C. Development which will add nutrients to these sites may not meet the site integrity test without mitigation. This will need to be explored as part of the HRA. Nutrient neutrality is an approach which could be used as suitable mitigation for water quality impacts for development within the catchments of these sites (please refer to the Nutrient Neutrality – A Summary Guide for an explanation of nutrient neutrality).

- Revised our internal guidance for planning, permitting and other HRA consultations which have the potential to have water quality and in particular nutrient effects on a habitats site.

This advice applies to the following types of habitats sites:

- Special Protection Areas (SPA) designated under the Habitat Regulations 2017.
- Special Areas of Conservation (SAC) designated under the Habitat Regulations 2017.
- Sites designated under the Ramsar Convention, which as a matter of national policy are afforded the same protection as if they were designated under the Habitat Regulations 2017**.**
- Sites identified or required as compensatory measures for adverse effects on SPAs, SACs and Ramsar sites.

A plan or project will be relevant and have the potential to affect the water quality of the designated site where:

- It creates a source of water pollution (e.g. discharge, surface run off, leaching to groundwater etc) of either a continuous or intermittent nature or has an impact on water quality (e.g. reduces dilution).

AND

- There is hydrological connectivity with the designated site i.e. it is within the relevant surface and/or groundwater catchment.

AND

- The designated sites interest features are sensitive to the water quality pollutant/impact from the plan/project.

For LPAs where Natural England has already provided advice on this matter: Natural England has already provided advice to some local authorities on how to address the impacts of development which has the potential to increase nutrient emissions and adversely affect the integrity of habitats protected sites. The sites subject to this previous advice are listed in Annex C Table 1. There is an agreed approach between Natural England and these authorities on applying nutrient neutrality as a mitigation measure to enable development to proceed without causing harm to the integrity of those habitats sites (which are in unfavourable condition due to elevated nutrient levels). We have advised that a likely significant effect from development that increases these nutrients cannot be ruled out[3]. In the absence of evidence to the contrary, our advice has been and continues to be that all new housing development proposals (including any other additional locally specific advice which has been issued), will need to consider, via an appropriate assessment, the impact of adding to the existing nutrients levels / loads where water quality targets are not being achieved for these habitats sites. Having carried out that assessment, permission for the plan or project may only be given if the assessment allows you to be certain that it will not have an adverse impact on the integrity of the site i.e. where no reasonable scientific doubt remains as to the absence of effects[4].

We are writing to your authority now to keep you updated on the development of the approach including the availability of an updated package of tools and guidance. We recommend that your authority moves to using the updated generic Nutrient Neutrality Methodology (attached) and the updated catchment calculators (attached) in preference to existing methodologies whether produced by Natural England or your own authority. Your authority will be best placed to consider how it transitions to the new tools and guidance. Natural England recognises that for some existing catchments where nutrient neutrality is being implemented and mitigation is being actively progressed, authorities may need to consider the associated practicalities of moving to the new guidance whilst recognising their role as Competent Authority. The updated generic Nutrient Neutrality Methodology and associated catchment calculators incorporates new information and evidence, which is explained in Annex A.

For local authorities where this advice is new: Natural England advises you, as the Competent Authority under the Habitats Regulations, to fully consider the nutrients implications on the sites identified in Annex C Table 2 when determining relevant plans or projects and to secure appropriate mitigation measures (see Annex A, para 6 for mitigation options).

When considering a plan or project that may give rise to additional nutrients within the affected catchments, you should undertake a HRA. An Appropriate Assessment will be needed where a likely significant effect (alone or in-combination) cannot be ruled out, even where the proposal contains mitigation provisions. The need for an Appropriate Assessment of proposals that includes mitigation measures intended to avoid or reduce the harmful effects of a plan or project is well established in case law[5] .The Competent Authority should only grant permission if they have made certain at the time of Appropriate Assessment that the plan or project will not adversely affect the integrity of a habitats site i.e. where no reasonable scientific doubt remains as to the absence of effects[6].

The application of nutrient neutrality as mitigation for water quality effects from development has been tested in *Wyatt v Fareham case*[7]. The High Court dismissed an application for judicial review that planning permission which applied nutrient neutrality as mitigation did not satisfy the Habitats

[3] Natural England has agreed that for some sites it is appropriate to screen out insignificant discharges to ground of phosphorus where certain criteria are met. See Annex E for further details

[4] Unless the further conditions in regs. 64 and 68 apply.

[5] *Gladman Developments Limited v S of S for Housing, Communities and Local Government and another* [2019] EWHC 2001 (Admin)

[6] Unless the further conditions in regs. 64 and 68 apply.

[7] *Wyatt v Fareham BC [2021]* EWHC 1434 (Admin)

Regulations. The case has now been appealed. Where properly applied Natural England considers that 'nutrient neutrality' can be a robust way to mitigate nutrient impacts from development.

Your authority may wish to consider a nutrient neutrality approach as a potential solution to enable developments to proceed in the catchment(s) where an adverse effect on site integrity cannot be ruled out. For such an approach to be appropriate, the measures used to mitigate nutrients impacts should not compromise the ability to restore the designated site to favourable condition and achieve the conservation objectives (Further guidance is provided on what this means in practice in the Nutrient Neutrality Principles document, attached).

4.0 Plans and Projects Affected

Development

The Nutrient Neutrality Methodology enables a nutrient budget to be calculated for all types of development that would result in a net increase in population served by a wastewater system.

It covers all types of overnight accommodation including new homes, student accommodation, care homes, tourism attractions and tourist accommodation and permitted development[8] (which gives rise to new overnight accommodation) under the Town and Country Planning (General Permitted Development) (England) Order 2015[9].

For authorities where Natural England's advice is already being applied the development types affected remain as previously advised but are summarised in Table 1 Annex C.

This advice also applies to planning applications at the reserved matters approval stage of the planning application process, and to applications for grants of prior approval and/or certificates of lawfulness for a proposed use or operation.

Tourism attractions and tourism accommodation are included in the methodology as these land uses attract people into the catchment and generate additional wastewater and consequential nutrient loading on the designated sites. This includes self-service and serviced tourist accommodation such as hotels, guest houses, bed and breakfasts, self-catering holiday chalets and static caravan sites. Other types of proposal should be considered on their individual merits, for example conference facilities that generate overnight stays.

Other types of business or commercial development, not involving overnight accommodation, will generally not need to be included in the assessment unless they have other (non-sewerage) water quality implications. For the purposes of the Methodology, it is assumed that anyone living in the catchment also works and uses facilities in the catchment, and therefore wastewater generated can be calculated using the population increase from new homes and other accommodation. This removes the potential for double counting of human wastewater arising from different planning uses.

Permitting

Activities that require an environmental permit (such as waste operations, water discharge activities and groundwater activities) should be subject to an HRA where they are carried out within the catchment of a habitats site and there is a risk that they may affect water quality within that catchment.

Where a likely significant effect on the habitats site cannot be ruled out, they should be subject to an appropriate assessment. Mitigation will be required if an adverse effect on the integrity of the site cannot be ruled out, although depending on the type of permit being considered it may not be appropriate, to apply the standard nutrient neutrality methodology to such plans and projects. This would need to be considered on a case by case basis.

[8] Please note the condition on permitted development relating to European sites is set out in Regulation 75 of the Habitats Regulations 2017. The statutory condition on permitted development in regulation 75 only applies the HRA procedure (via regulations 76 and 77) to statutory European Sites. It therefore only applies to Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's) it does not apply to Ramsar sites, proposed SAC's or potential SPA's or to sites identified, or required, as compensatory measures for adverse effects on habitats sites.

[9] Planning permission granted for permitted development is subject to regs. 75-78 of the Habitats Regulations.

Other Plans and Projects

Whilst nutrient neutrality is only currently being applied to development that would result in a net increase in population served by a wastewater system, the HRA requirements will apply to any plans or projects, including agricultural or industrial plans and projects that have the potential to release additional nitrogen and / or phosphorus into the system and that require an LPAs or the EA's consent, permission or approval.

A case-by-case approach will need to be adopted for these. Early discussions with Natural England via our chargeable Discretionary Advice Service (DAS) are recommended Natural England Discretionary Advice Service.

Competent Authorities must be cognisant of their duties under the Habitats Regulations when performing any of their functions. Competent Authorities may reasonably conclude that a HRA is required whenever they receive an application for any consent, approval, licence or permission for plans and projects not expressly referenced in this advice that may affect a habitats site. Natural England would welcome further discussion with you on any other types of plans and projects that you consider may have nutrients impacts.

5.0 Supporting Information

Annex A of this letter outlines the tools and guidance documents that will support LPAs in implementing this advice. There are also a suite of documents appended to this email including the generic Nutrient Neutrality Methodology, catchment specific calculators and associated guidance, catchment maps, Nutrient Neutrality Principles, Nutrient Neutrality – A Summary Guide and site specific evidence documents. We recommend reading the Nutrient Neutrality – A Summary Guide to help your understanding of what is a complex issue. Natural England has been working closely across government departments (Defra and DLUHC) in the preparation of this support package and will continue to do so in the development of longer term solutions.

The Planning Advisory Service will be hosting detailed teach ins and Q&A sessions on nutrient neutrality and we therefore strongly advise joining these as a first step to understanding the issue and as an opportunity to raise questions. Please follow the link for further details: Nutrient neutrality and the planning system | Local Government Association

Area Team contacts have been provided in Annex G as an initial point of contact for informal discussions. However, should you have any detailed or technical questions concerning this advice, please contact consultations@naturalengland.org.uk marked for the attention of the relevant Area Team. Please ensure that any formal consultations are also sent to consultations@naturalengland.org.uk.

Yours faithfully,

Melanie Hughes

Sustainable Development Programme Director

ANNEX A:Supporting Information

This Annex summarises the key information and tools that are available to enable LPAs to implement Natural England's advice contained in this letter. It also explains how to take account of the following issues in any HRA:

- Habitats sites which are in unfavourable condition due to nutrients
- Use of permitted Wastewater Treatment Works (WwTW) headroom
- Summary of the updated generic Nutrient Neutrality Methodology
- Status of the National Nutrient Methodology and Calculators
- Mitigation options
- Forthcoming tools and guidance

1.0 Available Tools and Guidance

To help competent authorities take account of these water quality issues and develop strategic solutions, Natural England has provisionally developed the following tools and guidance:

1. A national generic Nutrient Neutrality Methodology (attached)
2. A national map showing the affected catchments (Annex B)
3. Table 1 listing the habitats sites that Natural England has previously advised are in unfavourable condition due to excessive nutrients and will require a HRA and where nutrient neutrality is a potential solution to enable development to proceed (Annex C).
4. Table 2 listing the additional habitats sites which are in unfavourable condition due to excessive nutrients which will require a HRA and where nutrient neutrality is a potential solution to enable development to proceed (Annex C).
5. A nutrient assessment methodology decision tree (Annex D)
6. A HRA Flow chart (Annex E)
7. Thresholds for insignificant levels of phosphorus discharges to ground (Annex F)
8. Area Team contacts for each habitats site and catchment (Annex G)
9. Catchment specific Nutrient Neutrality Calculators and associated Calculator Guidance
10. Detailed catchment specific maps (attached)
11. Evidence summary for each habitats site (new catchments only) including, brief site description, habitats site designated water dependent features, names of component SSSIs where relevant and summary of water quality data including targets and exceedances (attached).
12. Nutrient Neutrality Principles (attached)
13. Nutrient Neutrality – A Summary Guide to Nutrient Neutrality

The Nutrient Neutrality Methodology is a national generic methodology which can be used for all affected catchments and sites (as listed in Annex C). The methodology can be used for both phosphorus and nitrogen. It provides a framework and a set of agreed "input values" to enable a nutrient budget to be determined for any development draining into a habitats site. These values are based on updated information and evidence; Natural England considers that they are suitably precautionary[10] and address impacts in perpetuity to remove risks to site integrity beyond reasonable scientific doubt. The nutrient budget calculated should form part of the Appropriate Assessment (AA) of any HRA produced to address nutrient impacts on affected habitats sites.

The HRA Flow Chart summarises the key stages in the HRA process and the questions which need to be answered in relation to the habitats site and the proposed development at the screening and the appropriate assessment stages.

Guidance on Thresholds for Insignificant Effects from Phosphorus Only. This identifies the conditions which must be met to enable the effects of phosphorus, where it discharges to ground, to be considered as being insignificant. Where best available evidence indicates that these

[10] Precautionary values are used for key variables and an additional buffer is applied in stage 4 of the methodology.

conditions are met, Natural England's advice is that a conclusion of no LSE, either alone or in combination, for phosphorus can be reached. Note this does not apply to nitrogen.

The Catchment Calculators have been developed for each designated habitats site and its catchment. They enable nutrient budgets to be calculated for phosphorus and nitrogen. The calculators will be in an Excel spreadsheet format. There will be an associated guidance document for each calculator.

Site Specific Catchment Maps show the extent of the affected catchment. Natural England advises that a HRA of water quality impacts on the habitats sites is undertaken for developments that are within, or discharge to, Wastewater Treatment Works (WwTW) that are within these catchments.

Evidence Summary for each habitats site. This document includes the site name and site details including reasons for designation, nutrient pressure (i.e. whether it is nitrogen, phosphorus or both), water quality evidence and information on the underpinning Sites of Special Scientific Interest (SSSIs) for the habitats site.

Nutrient Neutrality Principles. These set out the key principles which must be met for nutrient neutrality to be an effective mitigation measure which can be relied upon to enable development to proceed that would otherwise adversely affect the integrity of habitats sites.

2.0 Where a Habitats Site is Currently Unfavourable Due to Nutrients

Where a site is considered unfavourable due to exceeded nutrient levels and there is the possibility of further nutrient loading from a new plan or project, Natural England advises that Competent Authorities need to carefully consider the circumstances where plans or projects can be authorised. In many cases, an Appropriate Assessment (AA) is likely to be the appropriate stage to consider these matters more thoroughly.

Where the plan or project will (or it cannot be ascertained that it will not) contribute additional significant nutrients, alone or in-combination directly to, or upstream of, any unfavourable location which is important for maintaining or restoring the sensitive designated interest features, then Natural England advises that either there is a Likely Significant Effect (LSE) or a LSE cannot be ruled out and therefore, an Appropriate Assessment should be undertaken. We advise that as the Competent Authority you should consider the implications of relevant case law in any HRA. Annex F identifies "Thresholds for Insignificant Effects" for phosphorus discharges to ground.

3.0 Use of Permitted Wastewater Treatment Works (WwTW) Headroom

Headroom (flow or quality) in WwTW discharge permits has largely come about due to decisions being made by the Competent Authority based on taking a 'fair share' approach that relies on proportionality (i.e. relying on action by each sector to achieve favourable conservation status) and/or through water companies significantly over-performing on their permits. In many situations, headroom has been eroded as the habitats site water quality objectives have become more stringent, or there is new available information since the last AA of the permit.

Competent Authorities who wish to rely on the reasoning or conclusions in previous AA should consider the age of the AA, its robustness and whether evidence or circumstances have changed and therefore whether additional consideration is needed. Careful consideration will be needed where the habitats site feature is unfavourable due to elevated nutrient levels and plans or projects contribute further loading. Competent Authorities should consider:

- Any changes to the habitats site nutrient objectives or related ecological objectives since the AA was undertaken.
- Any new relevant information since the AA e.g. change to site condition, information on how measures relied on in the AA have performed.

- Whether the previous AA complies with current legal requirements as a result of any changes to Case law.
- Whether any measures taken into account in the AA can be still be safely relied on to deliver the anticipated effects so that no reasonable scientific doubt remains as to their efficacy and delivery. For example, if a decision on a permit was based on another sector (such as agriculture) also delivering reductions to enable the site to achieve the water quality objectives, those measures to be taken on other sectors should be sufficiently certain so that they can lawfully be considered in an AA.

The preferred approach is to have a strategic plan which considers what is required from all sources (e.g. Diffuse Water Pollution Plan /Nutrient Management Plan) based on the latest evidence, is sufficiently certain and can therefore be used to identify and enable the development of WwTW headroom that can be used for growth, which competent authorities can then rely on to inform their AA. However due to the difficulties with providing sufficient certainty in these plans this may not be possible in the short to medium term for some habitats sites and may remain a longer term aim.

4.0 Updated Nutrient Neutrality Methodology

This new methodology incorporates updated information as detailed below. For those authorities which are currently implementing nutrient neutrality Natural England recommends that they move to applying the updated methodology (attached) and the catchment calculators (attached) in preference to any existing methodologies whether produced by Natural England or your own authority.

- The Generic Methodology includes the latest version of Farmscoper (version 5) which includes more up to date values for the various variables. The updated approach also uses the actual outputs rather than averaged values from Farmscoper for detailed farm types broken down by rainfall, drainage and Nitrate Vulnerable Zones. The benefit of taking the detailed farm types approach is that it offers a more specific budget calculation for the actual nutrient losses from the development or mitigation land to be taken into account.
- The Generic Methodology covers all potential different situations on water usage that might occur across the full range of catchments.
- It provides a more consistent approach for dealing with onsite wastewater treatment systems.
- Pet waste is not considered in the greenspace export coefficient as this type of waste is taken into account in the urban surface water run off element of the calculator.
- The new methodology uses a different approach for calculating the urban export co-efficient so that it is applicable across the country. The values take into account the type of urban land and development site specific rainfall. This results in export values that will be specific to the rainfall at the location within the catchment.

5.0 Status of the National Nutrient Methodology and Calculators

Natural England is issuing the National Generic Methodology (and the associated catchment calculators) to provide Local Planning Authorities with the tools to progress nutrient neutrality as a potential mitigation solution to enable development that would otherwise adversely affect the integrity of habitats sites to proceed. However, at present this guidance **should be considered as provisional** due to the outstanding appeal to the Court of Appeal in **Wyatt v Fareham BC** [2021] EWHC 1434 (Admin), which although not concerned with the National Generic Nutrient Neutrality Methodology, could impact on certain elements contained within the Methodology because that case considers a similar (but not identical) earlier methodology for the Solent region. The Court of Appeal has granted permission for the appeal to be heard. The dates of the hearing are 5th and 6th April 2022.The outcome of the appeal hearing is not known. Nevertheless, Natural England is encouraged that the Judge in the High Court upheld Natural England's nutrient neutrality approach in principle and has responded to the Judge's comments in the Methodology. Natural England

intends to review this Methodology following judgement in the appeal in ***Wyatt*** which may require amendments to be made to the Methodology.

6.0. Mitigation Options

Mitigation to enable development to proceed within the affected catchments of the designated sites listed in Annex C can include nutrient neutrality as an option to avoid either permanent, or temporary increases in nutrients on the affected sites. Suitable mitigation measures might include constructed wetlands, land use change or retrofitting of Sustainable Urban Drainage systems (SUDs). Such measures must be effective for the duration of the impacts. In the case of new housing the duration of the impact is typically taken as in perpetuity, with the costs of maintaining, monitoring and enforcing mitigation calculated for a minimum of 80 – 125 years. It does not, however, follow that mitigation is not needed after that period, but rather the expectation is the mitigation will continue indefinitely (e.g. through securing appropriate permanent land use change).

There may be circumstances in which it is possible to define the 'lifetime of the development' more precisely, for example where consent is sought for the construction and use of a temporary structure that will be removed after a fixed period. In those circumstances, a Competent Authority may require mitigation to be maintained for a shorter period providing the Competent Authority is certain that adverse impacts on the integrity of a habitats site will not occur after the mitigation is removed. In those circumstances, a bespoke nutrient budget will be required, and early discussions with Natural England via our chargeable DAS are recommended Natural England Discretionary Advice Service.

Natural England has identified that nutrient neutrality is an option which can be used to mitigate the impacts of excess nutrients from development for the majority of sites listed in Annex C. However, there may be instances where due to the nature of the habitats site and/ or the location and scale of development it may not be appropriate to apply nutrient neutrality, as doing so would compromise the ability to restore the site to favourable conservation status in the long term, or it may not be possible to identify mitigation which will enable the development to be nutrient neutral. Situations where this is more likely to apply are explained in Annex C.

The extent of these nutrient neutrality constraints will be site and often development specific so will need to be considered on a case-by-case basis. Natural England recommends that Competent Authorities should carefully consider whether it is possible to allocate development in catchments or parts of catchments of sites which are likely to have significant constraints in being able to apply nutrient neutrality. Where nutrient neutrality cannot effectively mitigate the nutrient impacts of new developments, then consent should only be granted where other mitigation can effectively prevent an adverse effect on the integrity of site.

When consulting Natural England on proposals with the potential to affect water quality resulting in nutrient impacts on habitats sites, please ensure that a Habitats Regulations Assessment is included which has been informed by the Nutrient Neutrality Methodology (attached). Further guidance on the process is provided by the Decision Tree (Annex D) and HRA flow Diagram (Annex E) Without this information Natural England will not be in a position to comment on the significance of the impacts or the scope of any mitigation which may be required. For large scale developments, Natural England may provide advice on a cost recovery basis through our Discretionary Advice Service

All queries in relation to the application of this methodology to specific applications or development of strategic solutions will be treated as pre-application advice and therefore subject to chargeable services.

7.0 Forthcoming Tools and Guidance

Natural England's SSSI Impact Risk Zones will also be updated to include the affected catchments.

Annex B: National Map of Catchments

European protected sites requiring nutrient neutrality strategic solutions

Nutrient neutrality SSSI catchments

SSSI subject to nutrient neutrality strategy

Nutrient neutrality SSSI catchment

Produced by Defra Spatial Data Science

NATURAL ENGLAND

Annex C: Habitats sites in unfavourable condition and where nutrient neutrality has been identified as a potential mitigation solution to enable development to proceed.

Table 1: Existing sites in unfavourable condition due to excessive nutrients which require a Habitats Regulations Assessment (HRA) and where nutrient neutrality is being deployed as mitigation.

Habitats Site & Catchment	LPA Affected	Nutrient	Summary of Development Types Affected	Nutrient Neutrality Methodology and Calculator produced by Natural England or LPA*.
Poole Harbour SPA / Ramsar	Dorset Council Bournemouth, Christchurch and Poole Council	Nitrogen and Phosphorus	Additional development that will result in a net increase in population served by a wastewater system, including new homes, student and tourist accommodation	Nitrogen Reduction in Poole Harbour Supplementary Planning Document (SPD)
The Solent	Basingstoke and Deane Borough Council Chichester District Council East Hampshire District Council Eastleigh Borough Council Fareham Borough Council Gosport Borough Council Havant Borough Council Isle of Wight Council New Forest District Council New Forest National Park Authority Portsmouth City Council South Downs National Park Authority Southampton City Council Test Valley Borough Council Wiltshire Council Winchester City Council	Nitrogen for existing catchment (River Itchen includes Phosphorus and Nitrogen. See River Itchen in Table 2 for further details)	Additional development that will result in a net increase in population served by a wastewater system, including new homes, student and tourist accommodation	Methodology and Calculator developed and provided by Natural England.
River Avon SAC	Bournemouth Christchurch and Poole Council	Phosphorus	Additional development that will result in a net increase in population served by a	Interim Phosphate Calculator

	Dorset Council New Forest District Council New Forest National Park Authority Test Valley Borough Council Wiltshire Council		wastewater system, including new homes, student and tourist accommodation	
River Camel SAC	Cornwall Council	Phosphorus	• Additional development that will result in a net increase in population served by a wastewater system, including new homes, student and tourist accommodation. • Additional locally specific advice	Phosphate Calculator developed by consultants on behalf of Local Planning Authority
Stodmarsh SAC/Ramsar	Ashford Borough Council Canterbury City Council Dover District Council Folkestone and Hythe District Council Maidstone Borough Council Swale Borough Council	Nitrogen and Phosphorus	Additional development that will result in a net increase in population served by a wastewater system, including new homes, student and tourist accommodation.	Methodology and Calculator developed and provided by Natural England**.**
River Wye SAC (only applies to the River Lugg component)	Herefordshire Council Malvern Hills District Council	Phosphorus	Additional development that will result in a net increase in population served by a wastewater system, including new homes, student and tourist accommodation.	Phosphate Calculator developed by consultants on behalf of Local Planning Authority
Somerset Levels and Moors Ramsar	Dorset Council Exmoor National Park Mendip District Council Mid Devon District Council Sedgemoor District Council Somerset West and Taunton District Council South Somerset District Wiltshire Council	Phosphorus	• Additional residential and commercial development that will result in a net increase in population served by a wastewater system, including new homes, student and tourist accommodation. • Additional locally specific advice	Methodology and calculator developed by consultants on behalf of Local Planning Authority

*Note: Nutrient neutrality calculators have been provided for all the catchments listed above, even where there is an existing nutrient neutrality calculator .

Table 2: Additional habitats sites in unfavourable condition due to excessive nutrients which require a Habitats Regulations Assessment (HRA) and where nutrient neutrality is a potential solution to enable development to proceed.

Habitats site & Catchment	LPA Affected	Nutrient
Chesil and the Fleet SAC/SPA	Dorset Council	Nitrogen and Phosphorus
Esthwaite Water Ramsar	South Lakeland Council	Phosphorus
Hornsea Mere SPA	East Riding of Yorkshire Council	Nitrogen and Phosphorus
Lindisfarne SPA/Ramsar	Northumberland County Council	Nitrogen
Oak Mere SAC	Cheshire West and Chester Council	Phosphorus
Peak District Dales SAC	Derbyshire Dales District Council High Peak Borough Council Peak District National Park Authority	Phosphorus
River Axe SAC	Dorset Council East Devon District Council Somerset West & Taunton Council South Somerset District Council	Phosphorus
River Clun SAC	Herefordshire Council Shropshire Council	Nitrogen and Phosphorus
River Derwent & Bassenthwaite Lake SAC (only applies to catchments of Bassenthwaite Lake (River Derwent and Tributaries SSSI unit 1) and River Marron (unit 124 of River Derwent and Tributaries SSSI).	Allerdale Borough Council Copeland Borough Council Eden District Council Lake District National Park	Phosphorus
River Eden SAC	Allerdale Borough Council Carlisle City Council Durham County Council Eden District Council Lake District National Park Northumberland County Council Northumberland National Park Richmondshire District Council South Lakeland Council	Phosphorus
River Itchen SAC (part of Solent Catchment)	Basingstoke and Deane Borough Council East Hampshire District Council Eastleigh Borough Council Winchester City Council	Nitrogen and Phosphorus
River Kent SAC (only applies to catchments of units 104 and 111 of River Kent SSSI)	Eden District Council Lake District National Park South Lakeland Council	Phosphorus
River Lambourn SAC	Swindon Borough Council Vale of White Horse District Council West Berkshire Council Wiltshire Council	Phosphorus
River Mease SAC	East Staffordshire Borough Council Hinckley and Bosworth Borough Council Lichfield District Council North Warwickshire Borough Council	Phosphorus

	North West Leicestershire District Council South Derbyshire District Council	
River Wensum SAC	Borough Council of King's Lynn and West Norfolk Breckland Council Broadland & South Norfolk Council North Norfolk District Council Norwich City Council	Phosphorus
Roman Walls Loughs SAC	Northumberland County Council Northumberland National Park Authority	Phosphorus
Rostherne Mere Ramsar	Cheshire East Council	Nitrogen and Phosphorus
Teesmouth & Cleveland Coast SPA/Ramsar	Darlington Borough Council Durham County Council Eden District Council Hambleton District Council Hartlepool Borough Council Middlesbrough Council North York Moors National Park Redcar and Cleveland Borough Council Richmondshire District Council Stockton-on-Tees Borough Council	Nitrogen
The Broads SAC/Ramsar (only the following are included: • Bure Broads and Marshes SSSI • Trinity Broads SSSI • Yare Broads and Marshes SSSI • Ant Broads and Marshes SSSI • Upper Thurne Broads and Marshes SSSI	Borough Council of King's Lynn and West Norfolk Breckland Council Broadland & South Norfolk Council Great Yarmouth Borough Council North Norfolk District Council Norwich City Council The Broads Authority	Nitrogen and Phosphorus and
West Midlands Mosses SAC (only catchments of Abbotts Moss SSSI and Wynbunbury Moss SSSI are included)	Cheshire East Council (Wynbunbury) Cheshire West and Chester Council (Abbotts)	Nitrogen and Phosphorus

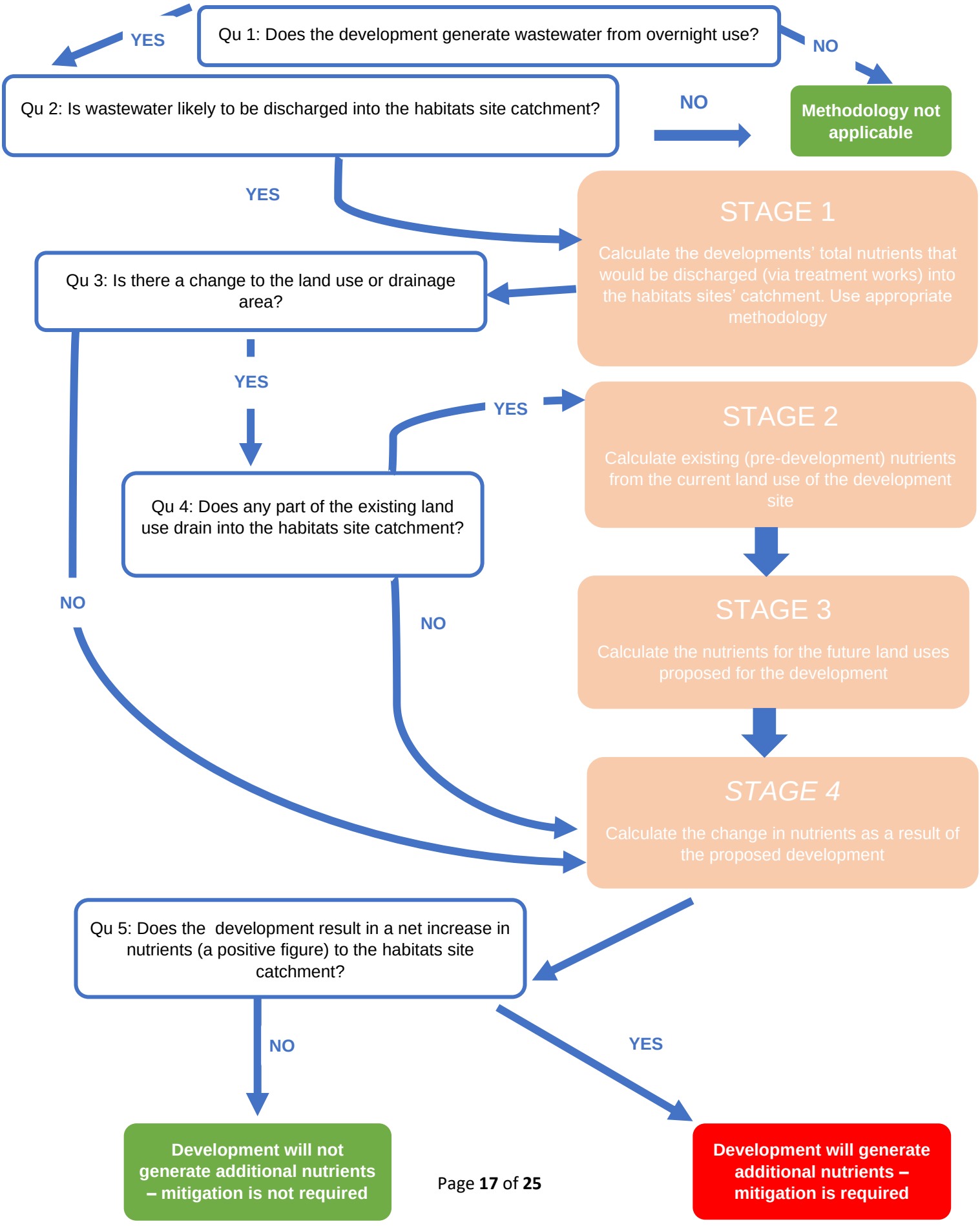
Situations where Nutrient Neutrality may not be an appropriate Mitigation Measure

- Lake or wetland sites and particularly those with long residence times or which have a limited or no outflow. For these types of sites nutrients will accumulate over time and therefore they are particularly vulnerable to even small increases in nutrients which will further hinder restoration. Where one of these sites is already unfavourable due to nutrient enrichment it is also likely that current sources of nutrients will need to be reduced to restore the site and therefore using these measures for nutrient neutrality would undermine the ability to restore the site.
- Where the development impact is direct to a habitats site terrestrial wetland habitat rather than to surface water. In these circumstances the mitigation would need to be

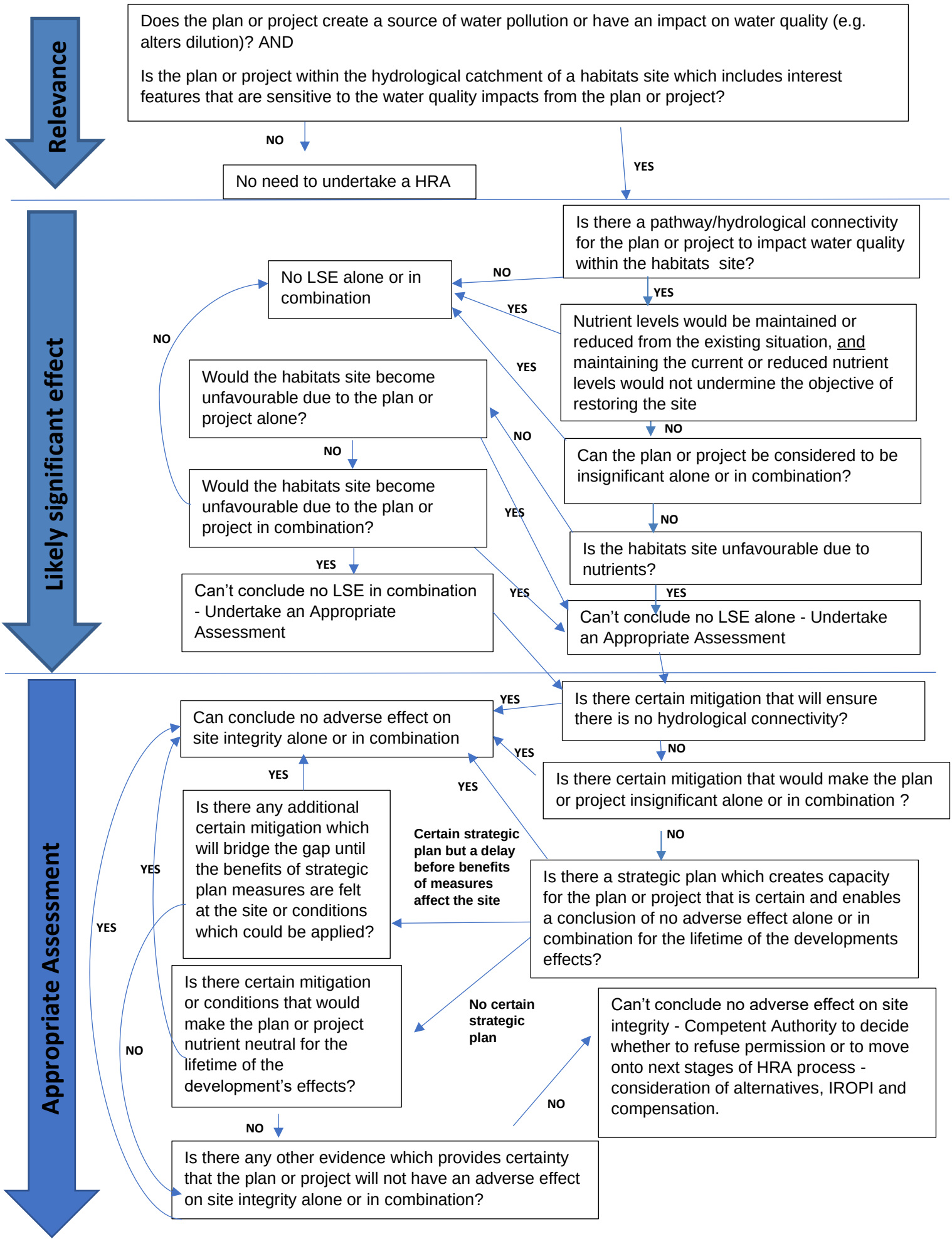
at the exact same location where the development is having its effect on the site, as reductions in nutrients in other locations of the wetland would not neutralise the effect of the development. Therefore, potential mitigation options will likely be very limited.

- Where the development impact is via groundwater discharging direct to a habitats site terrestrial wetland habitat rather than to groundwater discharging to surface water. In these circumstances there will be variation in the effectiveness of measures depending on their location within the groundwater catchment compared to development. This means measures may need to be located in the same part of the groundwater catchment to ensure that it would neutralise the nutrient increase from the development before it reaches the site, thereby constraining the area where mitigation could be targeted to a smaller area.
- Development (particularly larger developments) in the headwaters of a catchment. In these circumstances the area upstream of the development where nutrient neutrality mitigation can be located will be restricted to a small area, providing much more limited and perhaps in some cases no feasible opportunities for mitigation through nutrient neutrality, although other mitigation measures may be possible.
- Habitats sites with small catchments. Again, there will be a much more limited area where mitigation can be targeted thereby limiting potential nutrient neutrality mitigation opportunities.
- Where widespread and/or large-scale uptake of measures are needed to restore the habitats site or part of the site (e.g. identified in the DWPP or NMP) thereby significantly constraining the measures available for counterbalancing additional nutrient inputs in a way which will not undermine site restoration.

Annex D: Nutrient Assessment Methodology for Development which Generates Wastewater Decision Tree



Annex E: Flow Diagram of HRA Process for Consultations Contributing Nutrients



Annex F: Thresholds for Insignificant Effects – Phosphorus Discharges to Ground

Waddenzee established that an Appropriate Assessment (AA) is required where there is a "probability or a risk" of a significant effect on the site concerned. In light of the precautionary principle, a plan or project is likely to have a significant effect if the risk cannot be excluded on the basis of objective evidence. Any site specific rationale or thresholds to demonstrate the insignificance of effects would need to ensure that the risk of Likely Significant Effect (LSE) (alone or in combination) can be excluded. Where evidence is not currently available or it is uncertain, it would be more appropriate to take the plan or project through to AA for further consideration. It may still be possible to conclude no adverse effect on site integrity (alone or in combination) in the AA through further consideration as to the specific facts of the case in question and/or through consideration of appropriate mitigation.

Natural England currently considers that it is difficult to make robust arguments around generic standardised thresholds for levels of water quality impacts that exclude the risk of likely significant effects (alone or in combination) for all sites and situations. There are a number of different factors that are variable between sites which can influence the risk of cumulative effects and the sensitivity and vulnerability of the site and therefore what might be significant.

Thresholds for insignificant levels of phosphorus discharges to ground

Natural England considers that there is an exception to this position on generic thresholds in relation to discharges of phosphorus to ground.

Any plan or project which requires planning permission, Building Regulations approval or an environmental permit from the Environment Agency must comply with the requirements of those regulatory regimes as well as what is needed to meet the Habitat Regulations. For example, all of these regimes require that developments should be connected to the public foul sewerage network wherever this is reasonable. This includes areas where the Habitats Regulations apply and any need to reduce nutrient inputs in those areas should not lead to the installation of non-mains foul drainage systems in circumstances where connection to the public foul sewer would otherwise be considered reasonable. Any plan or project then connecting to mains would still need to also be compliant with Habitat Regulations.

Summary of evidence

Septic tank systems or package treatment plants that discharge to ground via a drainage field should pose little threat to the environment, because much of the P discharged is removed from the effluent as it percolates through the soil in the drainage field[11]. The risk of water pollution by these types of discharges to ground depends on a range of factors that affect their success or failure and can be summarised by three key factors[12]:

1. improper location
2. poor design
3. incorrect management

[11] Robertson WD, Van Stempvoort ER & Schiff SL. 2019. Review of Phosphorus attenuation in groundwater plumes from 24 septic systems.

[12] MAY, L., PLACE, C., O'MALLEY, M. & SPEARS, B. 2015. *The impact of phosphorus inputs from small discharges on designated freshwater sites*. Natural England Commissioned Reports, [redacted]

Phosphorus is removed from the effluent within the drainage field through retention in the soil through sorption within the aerated soil zone and mineral precipitation. How much phosphorus is removed will depend on the soil type and phosphorus characteristics, mineral content, pH, texture, and the hydraulic loading rate. P sorption can be reversed and P desorption can occur in certain conditions e.g. change in redox conditions[13]. For the drainage field to work effectively the drainage field needs to have acceptable year round percolation rates which will be influenced by the soil type, as if they drain too quickly or to slowly effective phosphorus removal will not take place. In addition if infiltration rates are lower than the loading rate of the effluent into the drainage field then hydraulic failure can occur which results in the effluent being discharged over the soil surface. Therefore correct design of the system is important. The Building Regulations[14] set out design and construction standards for septic tanks, package treatment plants and drainage fields. In relation to drainage fields they include the need for a percolation test, a method for how this should be undertaken and the minimum and maximum percolation values (V_p) which ensure that the drainage field effectively removes pollutants. This is then used to calculate the size of the drainage field required for the size of the household it will be serving.

Robertson et al (2019)[8] found that the carbonate mineral content of the drainage field sediments can also affect the P retention within the drainage fields and therefore the distance any P plume extends. Calcareous sediments having very high P retention (average 97%), with plumes not extending beyond 10m and non-calcareous sediments showing greater variability and having a lower P retention (average 69%) with some of the P plumes extending beyond 15m up to 100m in one case.

The evidence has shown that it is the aerated drainage field sediments which provides a key function in terms of removing the phosphorus from the effluent before it enters a receiving water body (surface or groundwater). Any enhanced connectivity to a water body, which short circuits this process, is probably one of the main factors that causes pollution of habitats sites (and other water dependent sites) by these systems[15] [16]. Therefore it will be important that the drainage field is sited far enough away from any watercourse, ditch, drain etc. as well as that it is not in a location where the groundwater is high enough that comes into connection with this aerated zone. Fractured rock or fissured geology could also short circuit this process. In addition seasonal flooding can wash out the contents of the tanks. Slope also affects the way the drainage field functions, with steeper slopes having a higher risk of run off.

[13] Mary G. Lusk, Gurpal S. Toor, Yun-Ya Yang, Sara Mechtensimer, Mriganka De

& Thomas A. Obreza. 2017. *A review of the fate and transport of nitrogen, phosphorus, pathogens,*

and trace organic chemicals in septic systems, Critical Reviews in Environmental Science and

Technology, 47:7, 455-541,

[14] [redacted] (2015), Document H, Section H2.

[15] MAY, L., WITHERS, P.J., STRATFORD, C., BOWES, M., ROBINSON, D. & GOZZARD, E. 2015. *Development of a risk assessment tool to assess the significance of septic tanks around freshwater SSSIs: Phase 1 – Understanding better the retention of phosphorus in the drainage field*. Natural England Commissioned Reports, [redacted]

[16] MAY, L., DUDLEY, B.J., WOODS, H. & MILES, S. 2016. *Development of a Risk Assessment Tool to Evaluate the Significance of Septic Tanks Around Freshwater SSSIs.* [redacted]

There is also some evidence that density (i.e. number) of these types of systems in an area also has a bearing on the risk of pollution. In general, lower densities of tanks tend to cause less contamination of downstream water bodies than higher densities of tanks.

Proposed thresholds

Small discharges to ground i.e. less than $2m^3$/day[17] that are within the surface or groundwater catchment of a designated site will present a low risk that the phosphorus will have a significant effect on the designated site where certain conditions are met:

a) The drainage field is more than 50m from the designated site boundary (or sensitive interest feature) [18] **and**;

b) The drainage field is more than 40m from any surface water feature e.g. ditch, drain, watercourse[19], **and**;

c) The drainage field in an area with a slope no greater than 15%[20], **and**;

d) The drainage field is in an area where the high water table groundwater depth is at least 2m below the surface at all times[21] **and**;

e) The drainage field will not be subject to significant flooding, e.g. it is not in flood zone 2 or 3 **and**;

f) There are no other known factors which would expedite the transport of phosphorus[9] for example fissured geology, insufficient soil below the drainage pipes, known sewer flooding, soil/geology type and its ability for P sorption/mineralisation or presence of conditions would cause remobilisation phosphorus, presence of mineshafts, etc **and**;

g) To ensure that there is no significant in combination effect, the discharge to ground should be at least 200m from any other discharge to ground[22].

[17] A limit of 2m3/day is used based on this being the size used for discharges to ground in the General Binding Rules and is representative of the size of the majority of the septic tanks investigated within [redacted] from which most of the criteria are based.

[18] 50m is the distance as which no measurable phosphorus signal was detected at this distance (NECR171 and NECR222). Robertson *et al* (2019) also found that the majority (although not all) of plumes did not extend further than this distance

[19] 40m is the distance that represents a low risk, based on there was a weak phosphorus signal this distance for some of the small discharges (NECR171 and NECR222) This is a slightly less precautionary value than the 50m distance to the Habitats site as there will be the capacity for further attenuation and dilution before the site.

[20] 15% is the slope that represents a low risk based on the methodology outlined in NECR222.

[21] 2m is the groundwater depth that represents a low risk, based on very low levels being detected in soil at depth below this (NECR171 and NECR222)

[22] The 200m is based on the 50m distance where no measurable phosphorus signal was detected (NECR171) for each septic tank. So for two drainage field areas not to overlap they need to be at least 100m apart. A safety factor of two is then applied to ensure that in the long term there will be the certainty that the effective drainage field phosphorus retention areas don't overlap. This then also takes account of the greatest distance that Robertson et al (2019) found a plume to extend which was 100m to ensure there would be no overlap. It also ensures that the maximum density of these systems is no more than one for every 4ha (or 25 per km2), as identified in NECR170.

A GIS layer is available from NE[23] which looks at conditions b, c and d above only, for the whole of England. Where this layer indicates that there is a low risk, then the three conditions (b, c & d) above can be considered to be met. Where there is a high or medium risk identified, then one or more of the three conditions (b, c & d) will not be met. This GIS layer can be shared with the EA and Local Authorities with the relevant data licence via our GI team, but not with developers due to the terms in the data licence. If site specific monitoring/modelled data is presented for conditions b, c or d which provides greater certainty than the national dataset used to produce the risk map, then this can override the risk map. It may be time consuming and/or costly to undertake site-specific monitoring that provides certainty for some of the conditions such as groundwater depth, due to the inherent variability over time and therefore the need for any monitoring to cover a long enough time period (several years) and to a sufficient frequency to determine the highest groundwater depth. So it is acceptable to rely on modelled or national dataset where these are the best available data and scientifically robust.

To consider the other three conditions (a, e and f) other data sources will need to be considered. Condition a can be looked at through using the designated site data layer[24] and calculating the distance from the site boundary. Condition e can use the EA flood risk maps (https://flood-map-for-planning.service.gov.uk/). Condition f should make use of any sewer flood data, information on local geology and soils, groundwater phosphorus concentration monitoring within the catchment or other local information which it is readily available. Elevated concentrations of phosphorus in groundwater would indicate phosphorus transport being short circuited e.g. through fissures, that it is not being effectively retained within the drainage field or it is being remobilised. It can be assumed that phosphorus is being effectively retained and not remobilised unless there is existing evidence at the discharge location or within the wider catchment which suggest that this may be occurring in the same conditions to those present at the location of the proposed discharge. Such evidence could include investigations, known soil or geological conditions or groundwater water quality (P) data from similar soil/geological conditions.

As not all of the phosphorus will be retained by the soil, condition g is to ensure that there is no in combination or cumulative effect from a number of these discharges in an area which together could add up to have a significant effect.

If conditions a to g are all met this represents a low risk that phosphate will reach the site, and not zero risk (i.e. not that no phosphorus from the discharge will ever reach the site in all cases). There will be further processes of dilution and attenuation between the drainage field and the site, which will provide further reduction and the current evidence would suggest that the scale of any inputs from these sources would not be significant.

Where best available evidence indicates that these conditions are met, Natural England advice is a conclusion of no LSE alone or in combination for phosphorus can be reached in these circumstances. Where uncertainty remains so LSE cannot be ruled out or evidence exists that there is a risk of phosphate from small discharges to ground causing a significant effect to a designated site (e.g. from SAGIS modelling or monitoring investigations), then Natural England advice is that there is a LSE or LSE cannot be ruled out and an AA should

[23]. The dataset LPAs can request the GIS layer for the England sewage discharge risk map from Natural England. The dataset is called - Small_Sewage_Discharge_Risk_Zone_Map_For_England (Dissolved).

[24] The Special Protection Area (England), Potential Special Protection Area (England), Special Areas of Conservation (England), Possible Special Areas of Conservation (England), Ramsar (England) and Proposed Ramsar (England) data layers can be download from [redacted]

be undertaken. Where evidence is presented which provides certainty that there will be no LSE even though these conditions are not met e.g. better local information, then Natural England's advice may be no LSE, but would be determined on a case by case basis.

The Competent Authority, as the decision maker, will need to determine whether it agrees with NEs advice.

For developments which allow for increases in the number of people that will be served by an existing discharge to a drainage field, it will be important to consider whether the existing system has sufficient capacity in its design to accommodate the increase, without increasing the risk of pollution.

The evidence underpinning these thresholds will be periodically reviewed and the thresholds will be amended as necessary to take account of any new evidence.

This approach does not apply to nitrogen as it does not get taken up by the soil like phosphorus.

Further work is necessary to review the evidence and determine if it is possible to establish any other generic insignificance thresholds for other development or discharge types. It may also be possible to develop site specific insignificance thresholds.

Annex G: Natural England Area Team Contacts

Habitat Site	Area Team	Area Team Manager	Additional Area Team contact
Oak Mere SAC	Cheshire and Lancashire	Ginny Hinton [redacted]@naturalengland.org.uk	Petula Neilson Bond
Rostherne Mere RAMSAR			
West Midlands Mosses SAC			
Estwaite Water Ramsar	Cumbria	Helen Kirkby [redacted]@naturalengland.org.uk	Helen Smith
River Derwent & Bassenthwaite Lake SAC			
River Eden SAC			
River Kent SAC			
River Axe SAC	Devon, Cornwall and Isles of Scilly	Wesley Smyth [redacted]@naturalengland.org.uk	Denise Ramsay for LPAs in Devon and Simon Stonehouse for LPAs in Somerset
River Camel SAC			Denise Ramsay
Peak District Dales SAC	East Midlands	Vicky Manton [redacted]@naturalengland.org.uk	Ian Butterfield
River Mease SAC			
River Wensum SAC	Norfolk and Suffolk	Helen Dixon [redacted]@naturalengland.org.uk	Jack Haynes
The Broads SAC/Ramsar			
Lindisfarne SPA/Ramsar	Northumbria	Christine Venus [redacted]@naturalengland.org.uk	Lewis Pemberton Andrew Whitehead
Roman Walls Loughs SAC			

Teesmouth & Cleveland Coast SPA/Ramsar			
Stodmarsh SAC/Ramsar	Sussex and Kent	James Seymour [redacted]@naturalengland.org.uk	Sue Beale
Solent	Thames Solent	Allison Potts [redacted]@naturalengland.org.uk Please contact the Thames Solent Team for developments in Hampshire and Isle of Wight and the Kent and Sussex Team for developments in Chichester and Wessex Team for developments in Wiltshire.	Becky Aziz
River Itchen SAC			Becky Aziz
River Lambourn SAC			Amy Kitching
River Avon SAC	Wessex	Rachel Williams [redacted]@naturalengland.org.uk	Tom Lord
Somerset Levels & Moors Ramsar			
Chesil and the Fleet SAC/SPA			
Poole Harbour SPA Ramsar			
River Clun SAC	West Midlands	Emma Johnson [redacted]@naturalengland.org.uk	Hayley Fleming
River Lugg (part of River Wye SAC)			
West Midland Mosses SAC			
Hornsea Mere SPA	Yorkshire and Lincolnshire	Paul Duncan [redacted]@naturalengland.org.uk	Hannah Gooch

Submission number: 002

Date submission received by PINS: 10/05/2022

Name: CEPP

Description: CEPP attachment 1

JOINT LETTER FROM INTERESTED PARTIES

Addresses for response by email:
[redacted]@gmail.com and
[redacted]@fastmail.co.uk

A47 North Tuddenham to Easton Examination
(A47NTE)

By email to:

Inspector Adrian Hunter,
Examining Authority (ExA),
A47 North Tuddenham to Easton Examination (A47NTE)

10th May 2022

Dear Inspector Hunter,

A47 North Tuddenham to Easton (A47NTE) Examination

We are aware that you will be concluding the drafting of your recommendation report this week, and we write to you to advise you on matters relating to carbon issues which we consider to still be unresolved. Some of these relate to changes in the legal and regulatory framework during or since the examination, the legal challenges to the Net Zero Strategy, and the recent decision by the Secretary of State for Transport (SoST) on the M54-M6 link scheme.

As events have moved rapidly, and are still moving rapidly, we are writing a summary letter now prior to your recommendation report, and we plan send a follow-up letter to the SoST with more detail later, on this and other issues.

CARBON EMISSIONS

On February 2nd, you sent a Rule 17 letter to the applicant and IPs at the A47NTE examination which included a request for information relating to carbon emissions: the same request has been made on a number of schemes across the country by examiners on NSIP DCOs and by the SoST at post-examination consultations. **The applicant responded at deadline D10, February 12th which was the same day as the A47NTE Examination closed, not allowing IPs at the A47NTE examination to respond. The approach is prejudicial to IPs who may have wished to comment on this submission.**

One of the lead authors of this letter, Dr Andrew Boswell from Climate Emergency Planning and Policy (CEPP) has responded to the applicant's response to similar Rule 17 letters on other schemes, and also to post-examination SoST consultations, where possible. The issues are similar on each scheme with the applicant's response following a similar structure on each.

The summary here is based upon detailed work which we will make available to the SoST, specifically for the A47NTE scheme, at a later date. As an indication, we provide as attachments (sent as separate documents), two recent responses by CEPP to deadlines D7 (April 11th 2022) and D8 (May 6th 2022) on the A417 missing link scheme (TR0010056), which may be referred to, to fill out the arguments listed in bullet points below. In the case of the D7 document, we refer to it as

A417/REP7_007. The D8 document has not yet been published with its full PINS document library assignation, so we refer to it as A417/REP8_NNN.

Issues with the A47NTE application/environmental statement

As the applicant's response [A47NTE/REP10-005] to your Rule 17 letter follows the same structure as those on other schemes, the following points may be made:

- No cumulative assessment of the environmental impacts of the scheme with other land-based and road developments has been done. See A417/REP7_007/section 5 for an analysis which demonstrates this conclusively, and applies also to the A47NTE scheme.

- The applicant claims that data extracted from an "inherently cumulative" traffic model produces cumulative quantification and assessments of the carbon emissions involved in the scheme in all circumstances. **This is false** as the solus[1]/cumulative nature of the quantification and assessment depends upon how the data is extracted (referred to below as '*the false "inherently cumulative" notion*', see A417/REP7_007/section 5).

- The applicant has only made a solus quantification of carbon emissions associated with the scheme and it is the wrong solus calculation, and generates an underestimate of the carbon emissions associated with the schemes (see A417/REP7_007/section 5).

- The applicant has not followed DMRB LA 104 on cumulative carbon emissions. In LA 104, DMRB clearly defines the meaning of the "different projects", and how cumulative assessment should be done. With greenhouse gas emissions (GHGs), the receptor is the global atmosphere[2]. It is also clear, for GHGs, that the cumulative contributions of the carbon emissions from all the relevant developments in the study area require quantification as the measure of the impact on the receptor (ie they require being summed together). This is what the applicant has not done, and in so doing, has not only **not followed** its own industry guidance, but it has also not met the legal requirements of the EIA Regulations (see A417/REP8_NNN/section 5.7).

- Notwithstanding that the applicant has not done any cumulative assessment of carbon emissions of the scheme, a very obvious **A47-specific** opportunity for a cumulative assessment has been ignored. No consideration has been given by the Applicant to the special case of the three A47 schemes, all sharing the same study area and in close proximity to each other, progressing in parallel through DCO Examinations, and as highlighted to the examination in CEPP's letter of October 24th 2021 [A47NTE/AS-016]. The Applicant has not taken up the clear opportunity afforded by a common transport model, and study area, to generate a cumulative carbon emissions assessment across these three schemes, along with the Norwich Western link local authority scheme which also shares the same proximity and study area. This is a blatant non-compliance with the requirements of the EIA Regulations for cumulative carbon assessment.

  As warned from CEPP's Relevant Representation onwards, the Courts accept the importance of cumulative environmental impact assessment. The case of Pearce v BEIS

[1] Solus means, here, "alone; separate" as in the first definition in the Collins on-line dictionary

[2] The latest IEMA guidance states "*The receptor for GHG emissions is the global atmosphere. The receptor has a high sensitivity, given the severe consequences of global climate change and the cumulative contributions of all GHG emission sources.*"

[2021] EWHC 326 (Admin) is extremely relevant where a solus only environmental impacts assessment of a wind farm was found to be unlawful in a similar situation where more than one scheme was progressing through DCO examinations in a similar timeframe.

- The applicant relies upon the belief that because various national climate change policy documents and targets exist, it is guaranteed that the Government will meet its carbon reduction targets and targets set within them, and consequentially, the scheme will not have a material impact on the ability of the Government to meet its carbon reduction targets. This proposition is false on both counts (ie the general principle and its specific application to the scheme), although it is widely applied by the applicant, including with reference to the Net Zero Strategy (NZS), the Transport Decarbonisation Plan (TDP) and the UK's National Determined Contribution (NDC) and international obligation under the Paris Agreement. The applicant's statements with respect to the significance of the carbon emissions associated with the scheme and their material impacts on meeting Government's carbon reduction targets relating to NN NPS 5.17 and 5.18 need to be re-examined in the context of this falsehood (see A417/REP8_NNN).

- The falsehood of this proposition is currently under legal challenge on the NZS as described below.

- The applicant has not followed the latest EIA guidance from IEMA (the "IEMA guidance", published February 2022). The IEMA guidance at section 6.4 on "Contextualising project's carbon footprint" states **first** that assessment of a project's carbon emissions against the carbon budget for the entire UK economy **is only a starting point of limited value** in the EIA process, and **second** that local policies and budgets and targets should be included in EIA assessments of carbon emissions. The applicant has only assessed the project's carbon emissions against the carbon budget for the entire UK economy (and utilised in the process, an underestimate of the emissions, see above).

- As well as the IEMA guidance, the EIA guidance from the European Commission[3], strongly advocates local and regional assessment of carbon emissions and has been ignored by the applicant. Section 2.2 of CEPP's submission A47NTE/REP1-023 quoted relevant sections from the guidance[4] on writing the EIA report, or Environmental Statement (full guidance attached with this letter, see PDF pages 41 and 52 of the guidance).

The legal claim against the Government's Net Zero Strategy

Three separate legal claims were made to the High Court by Friends of the Earth, ClientEarth and the Good Law Project, each seeking to challenge the publication on 19 October 2021 of the "Net Zero Strategy: Build Back Greener" by the Secretary of State for Business, Energy and Industrial Strategy, in purported compliance with his duties under sections 13 and 14 of the Climate Change Act 2008.

At the application for permission to apply for judicial review (CPR 54.11, 54.12), the Honourable Mr Justice Cotter granted permission (on March 1st 2022) to apply for judicial review and observed "*the grounds advanced in this claim are arguable, with a realistic prospect of success, and merit*

[3] The EU Commission website hosts an official webpage for the EIA Directive, which lists a number of Guidance documents. The site is: [redacted].
[4] The full guidance can be found at [redacted]

investigation at a full hearing". The three cases are to be rolled into one hearing expected to take place in Autumn/Winter 2022.

This case which received permission for a full judicial review hearing after the close of the A47NTE examination is relevant as follows:

- The key grounds for challenge relate to the notion, described above, that because various national climate change policy documents and targets exist, it is guaranteed that the Government will meet its carbon reduction targets and targets set within them: in this case for the NZS. The Friends of the Earth press release and briefing on 2nd March (attached with this letter) gives their Ground 1 as:

  > *"**Ground 1** – BEIS failed to include in the NZS the basic information required to give effect to section 14 of the CCA, including: the basis for concluding that the proposals and policies would meet the carbon budgets; a quantified estimate for emissions reductions from each proposal and policy; and, the relevant timescales for their implementation and effect."* (underline emphasis added)

- Therefore it is contested, as described, that the existence of the NZS document, and the policies within it, are designed to secure the Government's carbon reduction targets. Further details are given at A417/REP8_NNN/section 2.7.

- The implications for the A47NTE application are that **it is premature for weight to be given to the Applicant's claims** (based on the false and contested proposition described above) that the carbon emissions from the scheme are not "significant" and have no material impacts on meeting Government's carbon reduction targets relating to NN NPS 5.17 and 5.18 (A417/REP8_NNN/18).

Decision Letter on M54-M6 Scheme

On 21 April 2022, the Secretary of State for Transport (SoST) issued a decision on the M54 to M6 Link Road (decision letter referred to here as M54-M6-DL). Following a Rule 17 letter, CEPP has provided without prejudice comments to the A417 ExA at A417/REP8_NNN/section 5 on the M54-M6-DL. In summary:

- M54-M6-DL/31 incorrectly relies upon the inevitable success of the NZS (and TDP). As above, given the on-going judicial review, it is premature for weight to be given to any claims based on the notion that the NZS will inevitably succeed in securing the Government's carbon emissions reduction targets (see A417/REP8_NNN/5.1).

- Similarly, M54-M6-DL/37 incorrectly relies upon the inevitable success of meeting the UK NDC (which itself depends upon the success of the NZS). Again it is premature for weight to be given to any claims based on the notion that the NDC will inevitably succeed, and the UK will deliver its international obligations (see A417/REP8_NNN/5.2).

- Negative weight was given to increasing carbon emissions in the planning balance (M54-M6-DL/54); however, this was "offset" by the assertion that the Government could still meet their carbon reduction targets (ie under NN NPS 5.18). However, as above, it is premature to rely on this assertion (see A417/REP8_NNN/5.3).

- The UK Government is a drafter and signatory to the policy statements associated with each of the recent Intergovernmental Panel on Climate Change (IPCC) 6th Assessment (AR6) reports. M54-M6-DL does not reflect the urgency to deal with climate change, as laid out in this report despite the Government being a signatory to the science summarised in the policy reports (see A417/REP8_NNN/5.4).

- M54-M6-DL/32-35 discusses the IEMA guidance. It selectively quotes from it, and does not follow it (see A417/REP8_NNN/5.5).

- As above, the applicant has not followed the DMRB LA 104 on cumulative carbon assessment on the A47NTE, and therefore M54-M6-DL/40 cannot be relied upon (see A417/REP8_NNN/5.7).

- As above, the applicant relies upon the false "inherently cumulative" notion, and the applicant has not produced a cumulative carbon emissions assessment on the A47NTE scheme, and cannot rely upon M54-M6-DL/42-43 (see A417/REP8_NNN/5.8).

- As above, the applicant has not provided a cumulative carbon assessment in the A47NTE application. M54-M6-DL/45,47-48 cannot be relied upon within the recommendation for the decision making on the A47NTE scheme (see A417/REP8_NNN/5.9).

We are grateful for your consideration of this letter.

Yours sincerely

Dr Andrew Boswell, Climate Emergency Planning and Policy (CEPP)
Richard Hawker, Wensum Valley Alliance
David Pett, Stop the Wensum link campaign
Dr Hannah Hoechner, University of East Anglia
Cllr Denise Carlo, Norwich Green Party
Dr Iain Robinson, Wensum Woodlanders
Bryan Robinson, Norfolk resident
Hanne Lene Schierff, Norfolk resident
Robert Palgrave, Herefordshire Sustainable Transport Group
Anne Robinson
Laura Blake

Attachments provided as separate documents:

1) A417/REP7_007 – CEPP submission to A417 Missing Link examination, April 11th 2022
2) A417/REP8_NNN - CEPP submission to A417 Missing Link examination, May 6th 2022
3) Friends of the Earth press release and briefing, March 2nd 2022 "BRIEFING – NEW LEGAL CASE : Net Zero Strategy and Heat and Building Strategy : The Climate Change Act 2008"
4) "Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report", European Commission, 2017

Submission number: 003

Date submission received by PINS: 10/05/2022

Name: CEPP

Description: CEPP attachment 2

BRIEFING – NEW LEGAL CASE
Net Zero Strategy and Heat and Building Strategy
The Climate Change Act 2008

NOTICE: This briefing contains a summary of a Friends of the Earth legal case, which was filed on 12 January 2022 in the High Court. A copy of our press release is also enclosed.

PURPOSE: This briefing is provided for your information, but you can also contact us.

KEY POINTS

- Friends of the Earth is taking the Government to court, alleging it has breached the Climate Change Act 2008 (CCA). The CCA was devised by Friends of the Earth, and came into force following its hugely successful [redacted] campaign.
- In this court case, Friends of the Earth is challenging two government strategies, published together in October 2021:
  - the Net Zero Strategy (NZS), which is the Government's economy-wide decarbonisation strategy. We will argue that Secretary of State for Business Energy and Industrial Strategy (Kwasi Kwarteng) has failed to comply with his duties under the CCA.
  - the Heat and Buildings Strategy (HBS), on the basis that no assessment was done of its impact on protected groups, as required by the Equality Act 2010.
- On 1 March 2022, the High Court granted Friends of the Earth permission to proceed on all of its grounds.

WHY IS FRIENDS OF THE EARTH BRINGING THIS CASE?

- We're bringing the case because a rapid and fair transition to a safer future is not yet guaranteed and the Government strategies do not match what is needed.
  - The NZS contains some ambitious targets, and *theoretical* pathways, but lacks the detail needed to assess whether or not the proposed policies can deliver the emissions reductions set by the carbon budgets under the CCA. The lack of that basic working-out is inexcusable in the context of a climate emergency and, we say, unlawful.
  - The lack of this essential information also does not allow Parliament and the public to hold the Government to account because we cannot assess how good or bad the Net Zero plan is. This defeats the purpose of the CCA legally requiring the government to present a report that sets out how it will meet the carbon budgets.
  - The HBS was never assessed for its impact on the more vulnerable and protected groups in society, under the Equality Act 2010. It's not possible to plan for the fair or just transition that is needed if you do not consider the possible disproportionate impact on vulnerable groups.

- The alleged legal failures are very serious given the urgency of the climate crisis and the need for a just and fair transition that is inclusive. That's vital, because we know that both the causes and effects of climate breakdown are not distributed fairly – with those doing least to cause it often the hardest hit.

- Inequalities should be at the forefront of policy-makers' minds when designing the climate transition. For example, in heat and buildings, we know that the impacts of fuel poverty affect some worse than others. A report[1] by Friends of the Earth in November 2021, found that people of colour are twice as likely to be living in areas of fuel poverty than white people. It also found that areas with high numbers of disabled residents were more likely to be rated in the worst category of fuel poverty.

- But the Government's strategy for our homes and heating didn't consider protected groups, such as age, race and disability when setting out policy for the future.

- Transitioning to a zero-carbon economy is an opportunity to redress existing inequalities and secure a safer, fairer future for all. But this can only be achieved by designing policy with marginalised or vulnerable people in mind. Otherwise we risk not only missing this opportunity, but exacerbating the inequalities that already exist. That risk is heightened when the Government does not – as here – identify and consider their specific needs, as required by the Equality Act 2010.

THE LEGAL CASE

We filed our case on 12 January 2022, and permission to proceed was granted by the High Court on 1 March 2022. The judge concluded that all of our grounds have a realistic prospect of success, and merit investigation at a full hearing.

We anticipate that this legal challenge could be a landmark climate case against the Government.

We are challenging the Government on the basis that:

Ground 1 – BEIS failed to include in the NZS the basic information required to give effect to section 14 of the CCA, including: the basis for concluding that the proposals and policies would meet the carbon budgets; a quantified estimate for emissions reductions from each proposal and policy; and, the relevant timescales for their implementation and effect.

Ground 2 – BEIS misunderstood the statutory objective when preparing policies and proposals for section 13 CCA.

Ground 3 – BEIS did not have the information necessary to enable the conclusion to be made that the policies and proposals under s13 would enable the carbon budgets to be met.

[1] [redacted]

Ground 4 – BEIS failed to discharge the 'public sector equality duty' and did not assess the HBS strategy against the particular needs of protected groups, such as age, race, sex and disability.[2]

The environmental charity ClientEarth[3] and the not-for-profit campaign organisation the Good Law Project have also filed separate challenges in relation to the NZS. Their claims have also been granted permission to proceed.

Friends of the Earth was the first party to file its case, and is the only party challenging the Heat and Buildings Strategy as well.

WHAT WE HOPE TO ACHIEVE

- A Net Zero Strategy that contains a more credible and worked out plan that shows we will meet the carbon budgets set in law.
- Greater transparency, so the Government can be held accountable for any shortfall.
- Strengthen the operation of the CCA.
- Force the Government to consider the most vulnerable in society and how best to meet their need in the transition to Net Zero, particularly with regards to the HBS.

NEXT STEPS

- We will now be preparing our case for the substantive hearing, and will be coordinating with ClientEarth and the Good Law Project.
- We estimate that the hearing could take place in Autumn/Winter 2022.

FURTHER INFORMATION

For any further information about the legal case please contact Katie de Kauwe [redacted]@foe.co.uk; or Will Rundle [redacted]@foe.co.uk.

Case documentation will be legally privileged and may not be disclosable.

If you wish to help us amplify what we are doing and campaign with us, please contact Tony Bosworth [redacted]@foe.co.uk .

For press work or enquiries please contact our press team media@foe.co.uk

2 March 2022
Friends of the Earth

[2] [redacted]

[3] ClientEarth are claiming breach of the Climate Change Act 2008. ClientEarth lawyers will also argue that failing to have sufficient policies in place for meeting carbon budgets is not compatible with human rights law. They argue this would exacerbate the already severe risks posed to today's young people and future generations, including by risking the need for more drastic measures in future.

Friends of the Earth Press Release
Embargoed until 00.01 Wednesday 12th January 2022

"Shocking" and "lacklustre" commitments not enough: Friends of the Earth takes government to court over weak and inadequate climate strategies

- The Net Zero Strategy (NZS), published in October 2021, does not comply with requirements under the Climate Change Act 2008 [1]
- The Heat and Buildings Strategy, published at the same time and referred to in the NZS, did not consider impact on legally protected groups under the Equality Act 2010

Friends of the Earth is taking the government to court over two of its woefully inadequate climate strategies, and is filing papers today [2]. The Judicial Review, brought to the High Court by the environmental campaign group, will challenge both the government's Net Zero Strategy (NZS) and its Heat and Buildings Strategy. It will do so on the basis that the NZS does not comply with the Climate Change Act 2008, which Friends of the Earth was central to devising and securing. The group also contends that the Heat and Buildings Strategy should have considered the impacts of its policies on protected groups, as part of ensuring a fair energy transition where climate action aligns with social responsibility.

Friends of the Earth claims the pathways to reach net zero in the NZS are theoretical, because they are not supported by government policy which shows how they can be fulfilled. This means that the Net Zero Strategy is not lawful, and crucially, does not allow parliament and members of the public to hold government accountable for any failures.

Friends of the Earth also claims that the government totally failed to consider the impact of its Heat and Buildings Strategy, published at the same time as the NZS, on protected groups. Factors such as age (both the elderly and the very young who will live with the greatest future climate impacts), sex, race, and disability can make people more vulnerable to climate impacts. This unaddressed inequality needs transparency and political accountability.

A refusal so far to disclose its equality impact assessment for the Net Zero Strategy has raised similar concerns.

The environmental group is concerned that people in these groups can be unfairly and disproportionately impacted by a badly planned transition to low carbon living. Yet the government has not identified and considered their specific needs as required by the Equality Act 2010.

Previous government research has shown that more than three million people live in fuel poverty across England. Those considered fuel poor are typically people on a low income and living in poorly insulated homes.

[redacted] [3] that people of colour are twice as likely to be living in fuel poverty as white people, while areas identified by the government as having a high number of residents with disabilities or other health needs are more likely to be rated in the worst category for fuel poverty.

The government did not consider these factors which is why the environment group is today taking legal action.

The need for a fair and just transition away from reliance on damaging fossil fuels makes these collective legal failures all the more serious.

Katie de Kauwe, lawyer at Friends of the Earth, said: "With characteristic sleight of hand the government has set out an imaginary pathway for reducing carbon emissions but no credible plan to deliver it.

“A rapid and fair transition to a safer future requires a plan that shows how much greenhouse gas reduction the chosen policies will achieve, and by when. That the plan for achieving net zero is published without this information in it is very worrying, and we believe is unlawful.

“We know that those who do least to cause climate breakdown are too often the hardest hit. Climate action must be based on reversing these inequalities, by designing the transition with the most vulnerable in mind. Not even considering the implications of the Heat and Building Strategy on groups such as older and disabled people, and people of colour and ethnic minorities is quite shocking, given these groups are disproportionately impacted by fuel poverty, for example.

“Housing is a good example because people who need to consume the smallest amount of energy due to cost find themselves trapped in reliance on gas heating in cold, leaky homes. And now people across the country are facing an energy price crisis, with gas prices expected to double compared to just two years ago.

“The bottom line is that the government’s vision for net zero doesn’t match the lacklustre policy that is supposed to make it possible. We are very concerned at the potential consequences of such a strategy for people in this country, and across the world, given the climate emergency. This is why we are taking this legal action today.”

Rowan Smith, solicitor at Leigh Day, said: “Under the Climate Change Act 2008, the Secretary of State has a legal obligation to set out how the UK will actually meet carbon reduction targets. Friends of the Earth considers that the Net Zero Strategy lacks the vital information to give effect to that duty, and so any conclusion, that targets will be achieved on the basis of the policies put forward, is unlawful. Friends of the Earth is concerned that this places future generations at a particular disadvantage, because current mistakes are harder to rectify the closer we get to 2050. That is why this legal challenge is so important.” ENDS

For more information and interview requests contact the Friends of the Earth press office on 020 7566 1649 or email media@foe.co.uk.

Notes to editors
[1] Secretary of State for BEIS – Kwasi Kwarteng to produce policies that will enable the carbon budgets to be met (sections 13 and 14 of the Climate Change Act).
[2] Friends of the Earth Limited today filed papers in the High Court challenging the government’s Net Zero Strategy on the basis that it has breached the Climate Change Act 2008, an act which Friends of the Earth campaigned for through its [redacted]. The organisation is also challenging the government’s Heat and Buildings Strategy and is arguing that it has not complied with the Equality Act 2010, as it did not assess the impacts of this strategy on protected groups, such as disabled people and the elderly, people of colour and other ethnic minorities.
[3] Analysis by Friends of the Earth in November 2021 mapped out regional differences in fuel poverty across England. Its findings included that (i) people of colour are twice as likely to be living in fuel poverty as white people and (ii) that areas identified as having a high number of disabled residents, or people with other health needs, are more likely to be rated in the worst category for fuel poverty.

- Friends of the Earth is being represented by David Wolfe QC of Matrix Chambers and Catherine Dobson of 39 Essex Chambers, and by the law firm Leigh Day LLP.
- ClientEarth have also announced a legal case today challenging the lawfulness of the Net Zero Strategy. In addition to claiming breach of the Climate Change Act 2008, ClientEarth lawyers argue that failing to have sufficient policies in place for meeting carbon budgets is not compatible with human rights law. They argue this would exacerbate the already severe risks posed to today’s young people and future generations, including by risking the need for more drastic measures in future.
- **About Friends of the Earth:** Friends of the Earth is an international community dedicated to the protection of the natural world and the wellbeing of everyone in it. We bring together more than two million people in 75 countries, combining people power all over the world to transform local actions into global impact. For more information visit: [redacted] us at [redacted], or like our Facebook page. Save paper and send an e-card today by visiting [redacted].

Submission number: 004

Date submission received by PINS: 10/05/2022

Name: CEPP

Description: CEPP attachment 3

Author Details	
Name	**Dr Andrew Boswell**
Position	**Independent Scientist & Consultant**
A417 Missing Link Registration	**20028974**
Organisation	**Climate Emergency Policy and Planning (CEPP)**
Examination Principle Issues	• **Climate Change** • **Scope of Development and Environmental Impact Assessment** • **Benefit cost ratio (BCR) and case for scheme**

DEADLINE D8 SUBMISSION

I am an independent scientist and environmental consultant, working at the intersection of science, policy, and law, particularly relating to ecology and climate change. I work as a consultancy called Climate Emergency Policy and Planning (CEPP).

In so far as the facts in this statement are within my knowledge, they are true. In so far as the facts in this statement are not within my direct knowledge, they are true to the best of my knowledge and belief.

SUMMARY

Both the applicant on the A417 examination, and the SoS decision on the M54-M6 scheme, make the assumption that the Net Zero Strategy will **inevitably** deliver its objectives. However, the Net Zero Strategy is currently under legal challenge in a case which has permission for full Judicial Review on the basis that Net Zero Strategy does not demonstrate that it is designed to secure its objectives (which are to meet the budgets and targets in the Climate Change Act). Therefore it is premature to rely on the proposition that the NZS will inevitably meet its objectives within the planning examination of the A417 scheme.

The proposition expands to six propositions relating to the NZS, TDP and NDC, each of which it is premature to rely upon. These propositions all fall on the basis that the Government has not demonstrated that the NZS will meet its objectives. The consequence for the A417 scheme is that issues such as the significance of the carbon emissions associated with the scheme cannot be determined as it is not inevitable that the NZS will deliver UK carbon budgets.

The issues are on top of the existing legitimacy issues with the Environment Statement which I have identified. These are that no cumulative carbon assessment has been made, and that the solus carbon assessment is based upon the wrong quantification which is an underestimate of the emissions. The applicant can gain no comfort from the M54-M6 scheme decision, with respect to the cumulative impact of carbon emissions associated with the scheme, until a cumulative carbon assessment has been demonstrated for the A417.

Contents

1 INTRODUCTION

1.1 Deadline 8 (D8) – response to Rule 17 letter [PD-022]

1 On 21 April 2022, the Secretary of State for Transport (SoST) issued a decision on the M54 to M6 Link Road (decision letter referred to here as [M54-M6-DL]). The ExA has requested written submissions from myself and other named parties on the findings of the SoST on that project:

- particularly paragraphs 43 to 54 of the SoST's decision letter), and
- the implications for the current Examination into the A417 Missing Link.

2 As background before commenting on M54-M6-DL, it is also necessary provide background on the current legal challenge to the Government, now with permission to proceed to a full Judicial Review hearing, against the Net Zero Strategy, and to lay out number of other issues.

2 LEGAL CHALLENGE TO THE NET ZERO STRATEGY

2.1 Propositions of successful climate policy delivery

3 Before providing some background on the legal challenge to the Net Zero Strategy, I need to outline a number of propositions which are implicit in the Applicant's submissions to the examination, and within the M54-M6-DL. These are propositions or assertions which are unevidenced but made as if they are true. In other words, each of these propositions, is no more than a statement of blind faith.

2.2 Proposition 1: the "overarching assertion of NZS success"

4 Proposition 1 (the "overarching assertion of NZS success") is that the existence of the Net Zero Strategy document will ensure that national carbon budgets and targets are met, irrespective of what carbon increases are made in the transport sector by road schemes. This assertion amounts to saying "*because a policy document has been published and exists, future carbon budgets and targets will inevitably be achieved*".

5 For example at REP2-012/2.3.5, the applicant states:

> *"It is considered that this magnitude of emissions from the scheme in isolation would not have a material impact on the ability of the UK Government to meet its carbon budgets, and therefore is not anticipated to give rise to a significant effect on climate, in line with the position set out within paragraph 5.18 of the NPSNN.* (emphasis added)

6 The point here is that "it is considered" by the applicant that, including the increases in carbon emissions from the scheme, the UK Government will still meet its carbon budgets: however, no evidence has been provided to justify this claim. The claim implicitly,

although not stated, relies heavily on the "overarching assertion of NZS success" (ie proposition 1) that elsewhere the UK economy will make up for the increases in emissions from transport in Tewkesbury Borough.

2.3 Proposition 2: scheme specific "subsidiary assertion of NZS success"

7 A further proposition (a scheme specific "subsidiary assertion of NZS success") follows from the overarching assertion. It follows because if, inevitably, the NZS "will be achieved", the scheme itself will not affect the UK's ability to meet the NZS delivery pathway (or the other associated targets like 68% reduction in emission by 2030 from 1990 levels in the NDC). Again the quote above from REP2-012/2.3.5 is an example of this.

8 The overarching assertion that because the NZS exists, the delivery trajectories within it, will somehow, inevitably, one way or another, be met, **and** the subsidiary assertion that this means the scheme will not affect the UK's ability to meet the Net Zero Strategy delivery pathway **are both** unevidenced and unsubstantiated. Both are false.

2.4 Related propositions for the Transport Decarbonisation Plan (TDP) and (Nationally Determined Contribution) NDC

9 There are related propositions for the TDP. **Proposition 3**, the "overarching assertion of TDP success", is the claim that because the TDP document exists, all the policies within it will be delivered, irrespective of what carbon increases are made in the transport sector by road schemes. **Proposition 4**, the "subsidiary assertion of TDP success": if, inevitably, the TDP will be achieved, the scheme itself will not affect the UK's ability to meet the TDP.

10 **Proposition 5**, the "overarching assertion of NDC success", is the claim that because the NZS and TDP will be delivered, irrespective of what carbon increases are made in the transport sector by road schemes, the UK's international commitment under the Paris agreement for 2030 will also be inevitably met. **Proposition 6**, the "subsidiary assertion of NDC success": if, inevitably, the NDC will be achieved, the scheme itself will not affect the UK's ability to meet the NDC and deliver to the international community.

11 Propositions 2-6 all rely upon proposition 1 to be true in the first instance as the NZS is the primary delivery mechanism for the climate change act and the targets within it.

2.5 Proposition 1 and the NZS legal challenge

12 Proposition 1, the "overarching assertion of NZS success", is now subject to a Judicial Review where the idea that because a policy document has been published and exists, future carbon budgets and target will inevitably be achieved, is central to the legal challenge. I now provide further details.

2.6 NZS legal challenge: permission granted

13 Three separate legal claims were made to the High Court by Friends of the Earth, ClientEarth and the Good Law Project, each seeking to challenge the publication on 19 October 2021 of the "Net Zero Strategy: Build Back Greener" by the Secretary of State for Business, Energy and Industrial Strategy, in purported compliance with his duties under sections 13 and 14 of the Climate Change Act 2008.

14 At the application for permission to apply for judicial review (CPR 54.11, 54.12), the Honourable Mr Justice Cotter granted permission (on March 1st 2022) to apply for judicial review and observed "*the grounds advanced in this claim are arguable, with a realistic prospect of success, and merit investigation at a full hearing*". The three cases are to be rolled into one hearing expected to take place in Autumn/Winter 2022. The permission judgment is given in Appendix A.

2.7 NZS legal challenge: relevant grounds claimed

15 The Friends of the Earth press release on 2nd March (provided at Appendix B) gives their Ground 1 as:

> *"**Ground 1** – BEIS failed to include in the NZS the basic information required to give effect to section 14 of the CCA, including: the basis for concluding that the proposals and policies would meet the carbon budgets; a quantified estimate for emissions reductions from each proposal and policy; and, the relevant timescales for their implementation and effect."* (underline emphasis added)

16 Good Law Project (GLP) have provided their Pre-action protocol ("PAP") letter of 22nd December 2021 on-line, and read-only (meaning that it is not easily reproducible). It is best that the full letter is read at [redacted]. However, some highlighted screen clip sections have been provided in Appendix C, for additional reference. Key paragraphs are PAP/7 and PAP/16 which I transcribe sections of here:

> *"However, as explained further below, the Strategy is unlawful because it does not discharge the Secretary of State's duties under ss 13 and 14. That is because it does not set out policies and proposals for meeting the CB6. Rather it identifies the pathway that UK emissions will need to be on to meet the CB6 and then sets out a series of actions that will need to happen for that to occur,* ***but does not present a set of policies or proposals that have been designed so as to bring about the change which will be necessary to meet the CB6. Merely listing ambitions and discussing possible pathways does not meet the duties under ss. 13 and 14.****"*

> *"Nonetheless, for the Secretary of State to be able lawfully to conclude that the proposals and policies will enable the carbon budgets to be met,* ***he must assess***

> ***their collective effect on GHG emissions, and assure himself that they will (on his best estimates) bring about the necessary reductions. There is no indication in the Strategy that such an assessment has been made of the proposals and the policies it contains."*** (**bold** emphasis added)

17 The relevance to the applicant and the A417 scheme is that it is the "***collective effect*** *on GHG emissions*" of the proposals and policies in the NZS which the applicant relies upon (eg: at REP2-012/2.3.5) to make their overarching assertion (proposition 1) that because the NZS exists, the delivery trajectories within it, and UK carbon budgets and targets, will somehow, one way or another, be met. The proposition 2 subsidiary assertion which is that the scheme will not affect the UK's ability *to meet its carbon budgets* (and by implication to meet the Net Zero Strategy delivery pathway) relies upon the first overarching assertion. If the overarching assertion is unproven, or false as effectively contended by the claimants in the NZS case, then there is no way of knowing if the subsidiary assertion is true.

18 Therefore, the basis of the overarching assertion, and therefore also the subsidiary, scheme specific, assertion, is now under legal challenge. And the Court has said that the case merits investigation at a full JR hearing. If the scheme's timetable proceeds as currently planned, with the ExA's recommendation report due around August 16th 2022, then the outcome of the NZS legal case will be unknown. **I respectfully suggest that, in this situation, that it would be premature for the ExA to give weight to both the Applicant's overarching assertion and subsidiary assertion with respect to the UK's ability *to meet its carbon budgets* (and by implication the NZS delivery trajectory (propositions 1 and 2)), and by implication, the same assertions for the TDP and NDC (propositions 3, 4, 5 and 6).**

19 This is relevant to the M54-M6-DL, and many of the clauses in it which might give the applicant comfort are also based upon Proposition 1 (and the implied propositions 2-6) which are no longer claimable given the NZS legal action. This is explained later with specific examples later.

3 TRANSPORT DECARBONISATION PLAN

20 The same shortcomings apply to the Transport Decarbonisation Plan. Despite the NZS' lack of quantification of policies, and any evidence that it is designed to secure the carbon budgets, the NZS does, at least, provides a refinement of the TDP trajectory. The TDP is a vaguer document than even the NZS in terms of carbon quantification and validation of the policies within it. As I have previously pointed out, NZS Figure 21 is a refinement of TDP Figure 2 [REP7-007/25], and there is also linkage between the TDP policies and the NZS in this sense.

21 The applicant refers to the TDP at REP1-009/1.1.14 as "*a plan to decarbonise the entire transport system in the UK*". Once again, the mere existence of the plan is assumed to imply guaranteed success, despite no validation of the policies within it in terms of carbon quantification. This in turn implies that carbon increases are made in the transport sector

by road schemes (proposition 3), or the A417 scheme in particular (proposition 4), will not impact the success of the TDP which already somehow guaranteed. This assumption is false.

4 NATIONAL DETERMINED CONTRIBUTION (NDC)

22 Rather surprisingly as it is a significant international obligation, the applicant appears not to have mentioned the UK's Nationally Determined Contribution (NDC) under the Paris Agreement in the application and subsequent documents.

23 The NDC depends upon the NZS being successfully delivered, and the Government have not demonstrated that the NZS is designed to secure its objectives, as being challenged in the NZS legal case.

24 In summary, the government has not provided the quantified evidence that either the TDP or the NZS are designed to secure delivery of their carbon reduction objectives, nor that the UK international obligations under its NDC and the Paris Agreement can be delivered.

5 DECISION LETTER ON M54-M6 SCHEME

25 I now make some preliminary comments, without prejudice, as requested by the ExA.

26 I start by highlighting areas where the M54-M6-DL makes reliance of the propositions 1-6 which are unevidenced, and under legal challenge, as I have explained above. This will lay out some markers for the implications for the current Examination into the A417 Missing Link.

5.1 Illegitimate reliance on the inevitable success of the TDP and the NZS (Propositions 1, 2, 3, and 4)

27 At M54-M6-DL/31, the Secretary of State declares the "*background"* against which the Secretary of State has considered the Proposed Development:

> *"The Secretary of State considers that the majority of operational emissions related to the scheme result from vehicle usage and that the Transport Decarbonisation Plan includes a range of non-planning policies which will help to reduce carbon emissions over the transport network as a whole over time (including polices to decarbonise vehicles and radically reduce vehicle emissions) and help to ensure that carbon reduction commitments are met. Beyond transport, Government's wider policies around net zero such as 'The Net Zero Strategy: Build Back Greener' ("Net Zero Strategy"), published by Government in October 2021 sets out policies and proposals for decarbonising all sectors of the UK economy to meet the net zero target by 2050. It is against this background that the Secretary of State has considered the Proposed Development."* (underline emphasis added)

28 It is clear from this statement, the SoS is predicating his decision on the basis of both overarching assertion and subsidiary assertion of success for both the TDP and NZS. However, it remains to be tested in Court whether the overarching assertion for NZS success is legitimate. It is, therefore, premature, and not legitimate, to predicate the decision on these assertions.

29 If the overarching assertion for NZS success is not legitimate, then the overarching assertion for the TDP success cannot be legitimate either. And the subsidiary scheme-specific assertions for the NZS and TDP are also not legitimate as a consequence.

30 It would also be premature for the ExA in its recommendations to the SoS to make any reliance on overarching or subsidiary assertions of success for the NZS and TDP on the A417 scheme.

5.2 Illegitimate reliance on the inevitable success of meeting the UK NDC (Propositions 5 and 6)

31 At M54-M6-DL/37, the Secretary of State extends the overarching assertion of NZS success to an assertion of inevitable success in the UK meeting its NDC target of 68% carbon emissions reduction by 2030 compared to 1990:

> *"With regard to the Paris Agreement, the UK announced its Nationally Determined Contribution ("NDC") in December 2020. NDCs are commitments made by the Parties (including the UK) under the Paris Agreement. Each Party's NDC shows how it intends to reduce its greenhouse gas emissions to meet the temperature goal of the Paris Agreement. The UK's NDC commits it to reduce net GHG emissions by at least 68% by 2030 compared to 1990. This represents an increase of ambition on the fifth carbon budget, which covers the period 2028-2032. The Net Zero Strategy: Build Back Greener, published by Government in October 2021, sets out how the UK will therefore need to overachieve on the fifth carbon budget to meet its international climate targets and **stay on track** for the sixth carbon budget. This strategy sets out the action Government will take **to keep the** UK on track for meeting the UK's carbon budgets and 2030 NDC and establishes the UK's longer-term pathway towards net zero by 2050. The Secretary of State is content that consenting the Proposed Development will not impact on the delivery of this strategy and will not lead to a breach of the UK's international obligations in relation to the Paris Agreement or any domestic enactments or duties."* (emphasis added)

As the assertion of the inevitable success in the UK meeting its NDC target of 68% carbon emissions reduction by 2030 compared to 1990 is based upon the overarching assertion of NZS success, which is illegitimate, the conclusions in paragraph 37 are also premature, and are illegitimate. **From the evidence that the Government has made available, it is clear that the delivery of the NZS is not secured, and therefore, neither is the delivery of the NDC secured.**

32 Further, the bolded statements "stay on track" and "keep the UK on track" are perplexing as they do not agree with the assessment of the Government's advisors the Climate Change Committee who have advised that the UK is "off track" for meeting the 4th, 5th and 6th carbon budgets (see Appendix D).

33 If the applicant wishes to refer to the NDC at some stage, it would be premature, and illegitimate to assume (Propositions 5 and 6) that it can, inevitably, be delivered. There is no evidence that the NZS has been designed to secure its objectives, and the security of delivering the NDC is therefore compromised.

5.3 Negative weight for increasing carbon emissions in the planning balance

34 M54-M6-DL/54 states:

> *"Given that the scheme will increase carbon emissions, it is given negative weight in the planning balance. However, the Secretary of State considers that weight also needs to be given to the Transport Decarbonisation Plan that will mean operational emissions reduce over time and that in relation to climate change adaption the Proposed Development attracts positive weight in the planning balance.*

35 However, there are a number of issues with this, and the applicant should not rely upon it for the A417 scheme. First, as above the SoS has already declared at M54-M6-DL/31, the background for the decision, and as in the previous section, the SoS is assuming the overarching and subsidiary assertions of success for the NZS, TDP and NDC (ie: Propositions 1-6). These assertions are not legitimate.

Second, the SoS then claims that weight needs to be given to the TDP. However, in terms of meeting national carbon budgets and targets, the Government have not demonstrated the overarching assertion of success for the TDP or NZS. Therefore, no weight can be given to the TDP against the negative impact of increasing emissions.

Third, the SoS claims positive weight should be given to climate adaptation. However, greenhouse gas emissions and the vulnerability of the project to climate change are specified as two distinct environmental factors, or receptors in the EIA Regulations (eg: see EIA Regulation Schedule 4 (4) and Schedule 4 (5)(f)). Therefore they are not transmutable environmental factors.

The seriousness of the negative weight of increasing carbon emissions can only be balanced against full security in delivering the carbon budgets and targets. To understand the full impacts of the scheme's carbon emissions is not a luxury, it is an absolute necessity. This full knowledge and appraisal are required not only by the law, but also by the global scientific evidence as endorsed by the UK Government as below, by the precautionary principle, and by the principle of sustainability.

However, neither the NZS or TDP has been quantitatively demonstrated to be designed to secure the carbon budgets and targets. Failure to meet carbon budgets and targets cannot be

balanced by the notion, even if true, that the particular scheme may be slightly more robust against the physical impacts of climate change.

36 For the A417 scheme, the result of this is that the scheme will increase emissions, and this has negative weight in the planning balance. There is currently no legitimate way to demonstrate positive planning weight for carbon emissions.

5.4 The necessity of being led by the science

37 The sub-section is included for context on the previous section on the negative for increasing carbon emissions in the planning balance on the M54-M6-DL/54, which is also reproduced on the A417 scheme, and, as above, cannot be "offset" in the way M54-M6-DL/54 claims.

38 It is important to understand that the full knowledge and appraisal of carbon emissions for the A417 scheme must be "led by the Science" *as the global scientific evidence on Climate Change is endorsed by the UK Government.* As background, the Intergovernmental Panel on Climate Change (IPCC) has published three recent reports (all part of its 6th Assessment Report, AR6): the UK Government is a drafter and signatory to the policy statements associated with each of these reports[1]. These form the latest scientific knowledge on Climate Change, represent a massive scientific endeavour, and are underwritten for their policy implications by our own government.

39 The implications of this scientific consensus extend to all levels of government and administration in the UK having been authorised by our national Government. As has been widely reported, the IPCC reports make a clear and unanimous case for very urgent action on Climate Change actioned the immediate and rapid reduction in carbon emissions – not over decades, but over years in the very near future (45% cuts by 2030[2]).

40 On April 4th 2022, Professor Jim Skea, OBE, CBE from Imperial College, London and Co-Chair of IPCC Working Group III said on the release of the latest report "***It's now or never, if we want to limit global warming to 1.5°C (2.7°F); without immediate and deep emissions reductions across all sectors, it will be impossible***". This means starting serious, evidence-based decarbonisation now in 2022 – not next year, nor the next, nor 2025, **but now**. The Application is not consistent with what the scientific consensus requires, as underwritten by our own Government. This would be especially true if it was considered that increases in carbon emissions this decade from the A417 scheme can somehow be offset in the planning

[1] The three latest Summaries for Policymakers are: August 2021 "Climate Change 2021: The Physical Science Basis", [redacted] Professor Skea is quoted from UN Press Release, "UN climate report: It's 'now or never' to limit global warming to 1.5 degrees", 4th April 2022, [redacted]

[2] "Global net human-caused emissions of carbon dioxide (CO2) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050", Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C, 2018, [redacted]

balance against policy documents which have not been designed to secure their objectives (ie: the NZS and TDP).

5.5 IEMA guidance

41 M54-M6-DL/32-35 discuss the latest IEMA guidance. There are a number of issues.

42 The SoS selectively quotes IEMA. The IEMA guidance at section 6.4 on "Contextualising a project's carbon footprint" has been ignored. As I describe at REP7-007/3.1, IEMA say 1) assessment of a project's carbon emissions against the carbon budget for the entire UK economy **is only a starting point of limited value** in the EIA process 2) local policies and budgets and targets should be used. This latter point is also in line with the EIA guidance (which itself is material guidance to the NN NPS as the NN NPS invokes the EIA Regulations) [REP2-020/3.1 and REP2-022/section 3].

The SoS decision at M54-M6-DL does not identify that local and regional assessment of carbon emissions has not been done, and therefore that the Application for that scheme is not consistent with the IEMA guidance, nor the EIA guidance.

43 M54-M6-DL/33 correctly quotes the IEMA guidance with respect to "significance" that "*that GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit and as such any GHG emission or reductions in these might be considered significant.*" However, the SoS then does not take the logical step that this statement from IEMA implies that securing the delivery of the NZS, TDP and NDC are vital. Simply we are near to the limit of carbon emissions which may be generated (the "remaining global carbon budget" in the scientific jargon). Instead the SoS assumes propositions 1-6, and therefore concludes that GHG emissions from the project are not significant. However, as propositions 1 -6 are false, the conclusion cannot depend upon them and is also false.

44 For the A417 scheme, it would be premature and incorrect for the applicant to use M54-M6-DL/32-35 to support claims such as:

- that comparisons of carbon emissions made solely against UK carbon budgets in line with the NSPNN, and consistent with the IEMA guidance;
- that any assessment made on such a singular comparison is legitimate to conclude that the carbon emissions from the A417 scheme will not have a material impact on the ability of Government to meet its legally binding carbon reduction targets.

5.6 Overview - the (non) Assessment of Cumulative of GHG emissions from the A417 scheme

45 First, it is important to note that I have shown in detail in REP7-007/section 5 that no cumulative carbon assessment has been made, and that the solus carbon assessment is based upon the wrong quantification which is an underestimate of the emissions. I have shown that the notion that the assessment made by the applicant is cumulative because the traffic model is "inherently cumulative" is false.

46 **The applicant must provide a meaningful response to bullets 33-79, which cover the substance of my response in REP7-007 on there being no cumulative carbon assessment by the applicant. Crucially, the applicant must respond to sections 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9 and 5.10 which relate to whether the environmental statement includes a quantification and assessment of the cumulative carbon emissions of the scheme which is compliant with the EIA Regulations.**

47 The applicant may be tempted to draw a comparison between the A417 and the M54-M6 applications and claim that M54-M6-DL/39-51 would provide support. I lay out below why this would be an incorrect comparison.

5.7 The applicant does not follow the DMRB

48 At M54-M6-DL/40, the SoS says "*the Secretary of State notes the Applicant's responses set out that the assessment of cumulative impacts of the scheme on climate was undertaken in line with DMRB guidance*".

49 DMRB LA 104 is clear how cumulative assessment should be done. First it provides a definition of "cumulative effects" on page 7:

> *"Impacts that result from incremental changes caused by other present or reasonably foreseeable actions together with the project.*
>
> *NOTE: For the purposes of this guidance, a cumulative impact can arise as the result of:*
>
> *a) the combined impact of a number of different environmental factors specific impacts from a single project on a single receptor/resource; and/or*
>
> *b)* ***the combined impact of a number of different projects*** *within the vicinity (in combination with the environmental impact assessment project) on a single receptor/resource."* (emphasis added)

50 The receptor in question here is greenhouse gas emissions under EIA Regulations Schedule 4.

51 Then under the "Cumulative effects" section of DMRB LA 104:

> *3.19 EIAs must include cumulative effects in accordance with the requirements of the EIA Directive 2014/52/EU [Ref 1.N].*
>
> *3.20 Non-statutory environmental assessments shall include cumulative effects.*
>
> *3.21 Environmental assessments shall assess cumulative effects which include those from:*

1) a single project (e.g. numerous different effects impacting a single receptor); and

*2) **different projects (together with the project being assessed)**.*

3.21.1 Cumulative effects should be assessed when the conclusions of individual environmental factor assessments have been reached and reported.

*3.21.2 **The assessment of cumulative effects should report on:***

1) roads projects which have been confirmed for delivery over a similar timeframe;

2) other development projects with valid planning permissions or consent orders, and for which EIA is a requirement; and

3) proposals in adopted development plans with a clear identified programme for delivery.

3.22 The assessment of cumulative effects shall:

1) establish the zone of influence of the project together with other projects;

2) establish a list of projects which have the potential to result in cumulative impacts; and

3) obtain further information and detail on the list of identified projects to support further assessment."

52 It is quite clear from both the definition, and the summary definition at 3.21 that the meaning of the "different projects", or cumulative quantification and assessment, is that the carbon emissions of all the relevant developments in the study area under 3.21.2 and 3.22 should be summed together.

53 The applicant is **correct** that the architecture of its DS traffic model potentially provides for this calculation. The applicant is **incorrect** that its selected architecture for its DS-DM quantification, based on the outputs of this model, provides a cumulative quantification or assessment. This is an example of where the notion at REP7-007/36-39 does not hold true. This has all been explained in REP7-007, section 5.

54 In summary, the applicant has not followed DMRB LA 104, nor complied with it with respect to making an EIA Regulations compliant cumulative assessment of carbon emissions. The applicant has not only not followed its own industry guidance, it has also not met the legal requirements of the EIA Regulations.

55 The applicant, therefore, cannot rely upon M54-M6-DL/40.

5.8 The false "inherently cumulative" notion

56 M54-M6-DL/42 says: "*The Secretary of State notes that the Applicant's response of 26 January 2022 set out that the traffic model used to support the scheme assessment is inherently cumulative with regard to operational carbon emissions. This is because traffic models include data on the emissions resulting from the Proposed Development and the adjoining Strategic Road Network and the local road network as well as other schemes promoted by the Applicant in the vicinity of the scheme that have a high certainty of being progressed."*

57 M54-M6-DL/43 says: "*With regard to operational carbon, the Applicant's approach to assessing the impact on carbon emissions is to consider the changes in carbon emissions resulting from the Proposed Development by comparing changes in the road traffic on the Strategic Road Network and local road network between the 'without scheme scenario' and the 'with scheme scenario', with the former providing the baseline for assessment. The Applicant considers that this takes into account the Proposed Development and all other developments likely to have an influence on the Proposed Development and on the area the Proposed Development is likely to influence. The Applicant considers that as both the with and without scheme scenario includes all likely developments and traffic growth factors it is inherently cumulative.*"

58 On the A417 scheme, I have shown in REP7-007, section 5 that the applicant has only made a solus quantification and assessment of carbon emissions from the scheme. The solus quantification is the wrong solus quantification and is an underestimate of emissions form the scheme in isolation. No cumulative assessment has been done. This is because the notion at REP7-007/36-39 does not hold true in the traffic model architecture used by the applicant.

59 At REP7-007/47, I explain that the "influence" of all other developments **is not the same** as **quantifying** their environmental impact, in this case on the EIA receptor of global GHG emissions, which is what the EIA Regulations require.

60 The applicant has not established for the A417 scheme what is claimed for the M54-M6, and therefore, cannot rely upon M54-M6-DL/42 and M54-M6-DL/43.

5.9 Cumulative assessment of the impact of carbon emissions

61 M54-M6-DL/45 starts: "*The Secretary of State considers that as there is no single prescribed approach to assessing the cumulative impacts of carbon emissions, there are a number of ways such an assessment can acceptably be undertaken and that this does not necessarily need to be done at RIS level.*" (underline emphasis added)

62 The applicant may seek comfort from the underlined sentence. However, the point is that no cumulative carbon assessment has been done at all for the A417 scheme, so whether a prescribed approach has been followed is academic.

63 M54-M6-DL/47 includes "*As well as being a requirement of the NPSNN, the Secretary of State considers that assessing a scheme against the carbon budgets is an acceptable cumulative benchmark for the assessment for EIA purposes with regard to both construction and operation.*"

64 M54-M6-DL/48 includes "*Overall, the Secretary of State considers that the information provided by the Applicant with regard to the impact of the scheme on carbon emissions (including the cumulative effects of carbon emissions from the scheme with other existing and/or approved projects in relation to construction and operation) is sufficient to assess the effect of the development on climate matters and represents the information that the Applicant can reasonably be required to compile having regard to current knowledge.*"

65 The applicant may seek comfort from the above quotes. However, the point is that no cumulative carbon assessment has been done at all for the A417 scheme, so these quotes are not relevant.

5.10 Local and regional carbon assessment

66 M54-M6-DL/46 says "*The Applicant considered that it was unable to produce a baseline at a local or regional scale and that there was therefore no reasonable basis upon which it can assess the effects of carbon emissions for anything other than at the national level. The Secretary of State accepts that the only statutory carbon targets are those at a national level and notes that neither the Applicant nor any other party has suggested that there are non-statutory carbon targets at any other level that may need to be considered.*"

67 I have made it clear above that the IEMA guidance, and EIA guidance, strongly advocates local and regional assessment of carbon emissions.

68 The applicant may claim that an assessment against local/regional targets cannot be undertaken for the A417 scheme. Such a claim reveals that the applicant's intention is "can't do" rather than "can do", and it would also suggest that the applicant has not looked very far to find the relevant targets and to develop methods to assess against them, even despite the urgency implied by the rapidly changing landscape of climate legislation and targets.

Such an intentionally negative approach goes against the IEMA and EIA guidance outlined above, and any technical innovation to meet it as outlined below.

69 A quantitative approach can be undertaken, based upon two readily available sets of data, beyond local authority set targets themselves. The first is the BEIS UK local authority and regional carbon dioxide emissions national statistics[3] which are published annually. These provide the actual recorded carbon footprint, currently for each year from 2005 to 2019, and

[3] [redacted]

are broken down into sector and sub-sector, so that for transport the road transport total may be easily calculated. The second is the SCATTER local authority budgets from the Tyndall Centre at the University of Manchester. Whilst these do not directly provide a transport sector budget, it may easily be derived for a starting year (eg: 2019) based on the BEIS transport proportion for the same area. In each case, budgets for a benchmark area may be derived by summing the relevant, constituent local authority areas. Both these data sets have been available for several years now, but the applicant has not bothered to investigate their potential. I provided indicative work pointing how these budgets could be used at REP2-022/section 4.

70 A third quantitative approach may also be undertaken based on the existing data in the Environmental Statement, and making the assumption that the traffic model study area represents a proxy for a notional local and regional area. This would not the same as the full transport carbon budget for the relevant local authority as the traffic model is configured to include only those network links of most interest. And the study area may also extend beyond the relevant local authorities out into the Strategic Road Network. However, working with this assumption it provides an image of the transport network in the local and regional area which provides a self-scaling model[4] for further carbon budget and target assessment. I provided indicative work pointing how this approach could be used at REP2-022/4.7, and REP7-007/90-95.

71 Local and regional assessment may be pursued more qualitatively too. The overall objective is to ensure that the SoS is satisfied that the material provided by the Applicant is sufficient for him to reach a reasoned conclusion on the significant effects of the proposed development on the environment. Well-reasoned, qualitative assessment could provide useful information to the SoS. Failing to even attempt it goes against the IEMA and EIA guidance. A qualitative assessment could easily be generated against the climate policies, and budgets where they exist, at the local councils, including looking at individual policies within the transport planning documents, and assessing compliance, but the applicant has not attempted it.

72 The applicant cannot rely upon M54-M6-DL/46. It is against the guidance for EIA assessment, and I have suggested carbon targets at the local and regional levels that the applicant could use.

5.11 Cumulative impact on climate adaptation

73 M54-M6-DL/49-51 covers this issue. I have no comments.

5.12 M54-M6-DL Conclusions

74 M54-M6-DL/52 states "*The Secretary of State is content that the Applicant has adequately assessed the likely significant effects of the Proposed Development on climate and its cumulative impacts on climate taking account of both construction and operation as required*

[4] For example, it can be considered as local/regional area to test against the NZS transport sector trajectory

by the 2017 Regulations and this information has been taken into consideration when assessing whether development consent should be granted."

75 I have shown in detail in REP7-007/section 5 that no cumulative carbon assessment has been made, and that the solus carbon assessment is based upon the wrong quantification which is an underestimate of the emissions. M54-M6-DL/52 is therefore not helpful to the applicant on the A417 scheme.

76 M54-M6-DL/53 includes "*the Secretary of State considers that the Proposed Development is consistent with existing and emerging policy requirements to achieve the UK's trajectory towards net zero*".

77 As with M54-M6-DL/31, it is clear from this statement, the SoS is predicating his decision on the basis of both overarching assertion and subsidiary assertion of success for both the TDP and NZS. However, it remains to be tested in Court whether the overarching assertion for NZS success is legitimate. It is, therefore, premature, and not legitimate, to predicate the decision on these assertions. It would also be premature to make any reliance on overarching or subsidiary assertions of success for the NZS,TDP and NDC on the A417 scheme.

78 M54-M6-DL/54 on the negative weight of the carbon emissions from the scheme has already been dealt with in an earlier section.

6 CONCLUSIONS

79 I have responded on the M54-M6-DL and concluded that it provides no help for the A417 application. I have previously identified further work needed at REP7-007/96, and this is still required. An accurate solus quantification, and cumulative quantification, of the GHG emissions from the scheme must be produced in order to make assessment of the impacts of carbon emissions which is compliant with the EIA regulations.

80 The scale of the work identified is probably both too much for the applicant to deliver in the remaining weeks of the examination, and too much for interested parties to respond to with comments before the end of the examination. I respectfully suggest to the ExA that EIA Regulation 20 might serve as a preferable mechanism to the standard Rule 17 procedure for ensuring the Environmental Statement is adequate, and which would also be fairer to all parties.

Dr Andrew Boswell,
Climate Emergency Policy and Planning, May 6th, 2022

7 APPENDIX A: NET ZERO STRATEGY LEGAL CHALLENGE, PERMISSION ORDER, MARCH 1st 2022

Supplied as separate document

8 APPENDIX B: NET ZERO STRATEGY LEGAL CHALLENGE, FRIENDS OF THE EARTH BRIEFING, MARCH 2ND 2022

Supplied as separate document

9 APPENDIX C: NET ZERO STRATEGY LEGAL CHALLENGE, KEY EXTRACTS, GOOD LAW PROJECT PAP LETTER, DECEMBER 22nd 2021

Supplied as separate document

10 APPENDIX D: Climate Change Committee, Advice on reducing the UK's emissions

Downloaded from [redacted] May 5th, 2022

Supplied as separate document

Submission number: 005

Date submission received by PINS: 10/05/2022

Name: CEPP

Description: CEPP attachment 4

Author Details	
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A417 Missing Link Registration	**20028974**
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Examination Principle Issues	• **Climate Change** • **Scope of Development and Environmental Impact Assessment** • **Benefit cost ratio (BCR) and case for scheme**

DEADLINE D7 SUBMISSION

I am an independent scientist and environmental consultant, working at the intersection of science, policy, and law, particularly relating to ecology and climate change. I work as a consultancy called Climate Emergency Policy and Planning (CEPP).

In so far as the facts in this statement are within my knowledge, they are true. In so far as the facts in this statement are not within my direct knowledge, they are true to the best of my knowledge and belief.

SUMMARY

1 The Net Zero Strategy (NZS) and the Transport Decarbonisation Plan (TDP) provide new policy background since the Environmental Statement was written. Both documents provide the same sector specific decarbonisation pathway, and implied targets, for the surface transport sector, and the NZS is legally binding policy under section 13 of the Climate Change Act 2008 (CCA). The NZS has weight in assessing the scheme in four ways:

- compliance with the CCA itself of which it forms a core policy document;
- compliance with NN NPS and NPS required alignment with the latest Climate policy plans under the CCA;
- compliance with NPPF 153 and NPPF required alignment with the CCA;
- and the new requirement from DfT for TDP sensitivity testing in road scheme appraisal.

2 The Applicant provides a response to CEPP at pages 5-9 of [REP3-013] on carbon emissions which is riddled with flaws, including:

- The implied notion that *'**if** the traffic model contains all known road and land developments in the study, **then** it follows that all combinations of data, and differentiations of that data (eg DS-DM), extracted from the traffic model must be "inherently cumulative"'*.

  This is a defective notion as the latter does not universally follow the former. The flaw is fundamental to the Applicant's non-compliance with the requirements of the Environmental Impact Assessment Regulations for cumulative assessment of impacts, in this case carbon emissions. **The applicant's response demonstrates that the Environmental Statement does not comply with the EIA Regulations and is therefore unlawful.**

- Failure to identify the Net Zero Strategy (and Transport Decarbonisation Plan) as Government policy and therefore material consideration for the scheme.

- Use of out-of-date models, data and assessment methods including:

  A. An out-of-date Emission Factor Toolkit (EFT) which does not model emissions accurately between 2030 and 2050. Also out of date (BEIS) carbon factors and grid factors for assessing electric vehicle carbon emissions.

  B. No TDP Sensitivity Test assessment despite acknowledging DfT requiring it on other recent schemes (eg A38 Derby)

3 New carbon prices have been released by Government for carbon appraisal. These are substantially different in quanta from the carbon prices used in the Applicant's 60-year appraisal and economic case for the scheme. The economic case, and the Benefit Cost Ratio (BCR) need to be recalculated against the new carbon price data, and revised traffic modelling which corrects the above flaws. This should include: the construction carbon emissions on the cost side of the BCR; a solus quantification of the carbon emissions associated with the scheme based on the carbon impacts against the current environmental baseline; the full cumulative carbon emissions with other road and land development.

4 A fundamental issue remains that the Environmental Statement does not comply with the EIA Regulations. The Application should be refused on this ground alone.

5 The changes required to make the application viable and legitimate are substantial. The Applicant has unfortunately failed to consider the above points, or respond adequately on them, and make the relevant information available to the Examination. The ExA is not a position to be sure that the SoS can be satisfied that the material provided by the applicant

is sufficient for him to reach a reasoned conclusion on the significant effects of the proposed development on the environment.

6 There is a lot of information missing from the Environmental Statement. I respectfully suggest that further information, data and modelling required will now need to be obtained under EIA Regulations 20 with further consultations.

Contents

1 INTRODUCTION

1.1 Deadline 7 (D7)

7 This is my submission for Deadline 7. It follows my written representations at REP2-022, and REP2-020, and the ISH2 in late January. I apologise to the ExA, and parties, that I have not been at the examination since then until now. [redacted].

8 I will comment on:

A. A417/REP3-013, "8.21 Comments on Responses received by Deadline 2".

B. With reference to the Applicant's response of February 9th, 2022, to the Secretary of State Consultation letter on the **A38 Derby Junctions** scheme, provided in Appendix D which I refer to as A38/RESP-8.122.

C. With reference to another scheme which is still in examination, I refer to the Applicant's response on the A57 Links Road scheme which I refer to A57/REP5-026 and provided at Appendix E.

1.2 Recent changes to relevant policy

9 I previously reported to the ExA at D2:

(a) [REP2-022]/section 2.1: The Government's Transport Decarbonisation Plan[1] (TDP) which requires ambitious quantifiable carbon reductions in transport at the local level was published on the 14th July, 2021. **Provided in Appendix B**.

(b) [REP2-022]/section 2.2: The Government's Net Zero Strategy[2] (NZS) backing the urgent need for ambitious quantifiable carbon reductions in transport, at the local level was published on 19th October, 2021. **Provided in Appendix C**.

(c) [REP2-022]/section 1.3 and section 5: New carbon pricing data from the HM Treasury Green Book supplement on quantifying and valuing emissions of

[1] [redacted]

[redacted]

GHGs[3], as transposed into an updated version of the DfT's WebTAG guidance[4] and TAG data book (TAG Data Book November 2021 v1.17 (Table A3.4)).

1.3 Definitions

10 I refer to ExA to my submission at REP2-022 for discussion on definition and usage of "cumulative" and my definitions of "absolute emissions" and "differential emissions", as applied to carbon emissions.

2 EIA REGULATION 20

11 This section is provided because I respectfully suggest that EIA Regulation 20 may be considered as an alternative to a Rule 17 letter to provide the necessary additional information to the examination.

12 Regulation 20 of the EIA Regulations provides for a set procedure to be followed in cases where an "*applicant has submitted a statement that the applicant refers to as an environmental statement*" (Regulation 20(2)(a)) and "*the Examining authority is of the view that* ***it is necessary for the statement to contain further information***" (Regulation 20(2)(b)).

13 "Further information" is defined in Reg 3 as meaning:

> "*additional information which, in the view of the Examining authority, the Secretary of State or the relevant authority, is directly relevant to reaching a reasoned conclusion on the significant effects of the development on the environment and which it is necessary to include in an environmental statement or updated environmental statement in order for it to satisfy the requirements of regulation 14(2)".*

14 Regulation 20(1) and (3) essentially requires that – where further information is considered necessary (under Regulation 20(2)) - the applicant must provide that "further information". Under Regulation 20(1)(c), "*consideration of the application would be suspended*", and, subsequently, there must be a new public notification and consultation process, which allows interested parties (not limited to those interested parties who have already been involved in the examination process) to consider and comment on the environmental statement and "further information".

[3] "Valuation of energy use and greenhouse gas: Supplementary guidance to the HM Treasury Green Book on Appraisal and Evaluation in Central Government"

[redacted]

[4] h[redacted]

3 UPDATED IEMA GUIDANCE ASSESSING GREENHOUSE GAS EMISSIONS AND EVALUATING THEIR SIGNIFICANCE

In February 2022, IEMA released version 2 of their "Assessing greenhouse gas emissions and evaluating their significance" guidance, supplied at Appendix A. Although this is not a statutory document, it is relevant and valuable guidance on EIA Assessment of GHG emissions. The Institute of Environmental Management & Assessment (IEMA) state that they are the professional home of over 18,000 environment and sustainability professionals from around the globe.

15 The guidance is geared towards EIA compliance:

> *"The aim of this guidance is to assist greenhouse gas (GHG) practitioners (hereinafter referred to as 'practitioners') with addressing GHG emissions assessment, mitigation and reporting in statutory and non-statutory Environmental Impact Assessment (EIA)."* [from the Introduction]

16 The IEMA guidance supports several broad issues which I have highlighted as missing in the applicant's Environmental Statement, as follows:

3.1 IEMA: Contextualising a project's carbon footprint

17 In REP2-022, section 3, I laid out how local, national and regional assessment of carbon emissions is supported by the guidance documents to the EIA Regulations. The IEMA guidance provides further support for this. The relevant section in this guide is section 6.4, "Contextualising a project's carbon footprint".

18 With respect to the applicant's Environmental Statement where only an assessment is made against the carbon budget for the entire UK economy, IEMA say:

> *"The **starting** point for context is therefore the percentage contribution to the national or devolved administration carbon budget as advised by the CCC. However, the contribution of most individual projects to national-level budgets will be small and so **this context will have limited value**."* [my emphasis]

19 The guide goes on to state:

> *"**It is good practice to draw on multiple sources of evidence** when evaluating the context of GHG emissions associated with a project."*
>
> And identifies "*local or regional carbon budgets developed by local authorities and researchers (e.g.the Tyndall Centre at the University of Manchester)*" as "***a more pertinent scale for individual projects** and local decision-making*", and reflective of "*regional factors such as concentration of industry*"). [my emphasis]

3.2 Local and regional, policies and targets: "Important and relevant" matters

20 The applicant has only undertaken the "starting point" in the IEMA guidance – assessment against national carbon budgets. IEMA provide helpful elaboration as below in the diagram clipped below:

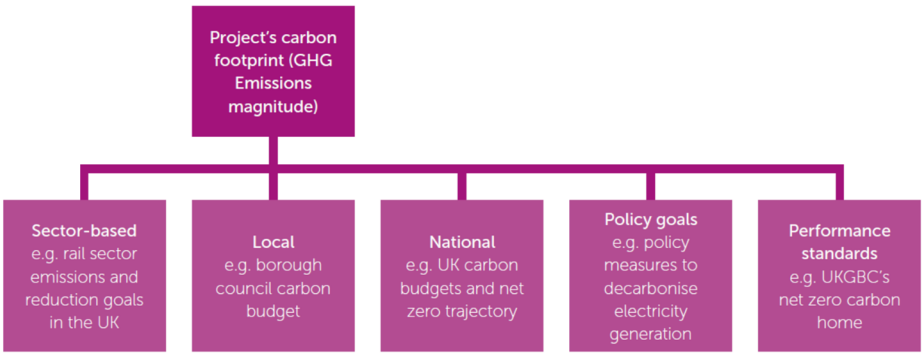


Figure 6: Good practice approaches for contextualising a project's GHG emissions

21 I previously set out possible ways that a carbon assessment test could be done against local or regional carbon budgets. For example, at REP2-022 section 4.4 and 4.5 ("Scaling to the Tewkesbury Borough" and "Local and national assessment based on Tewkesbury Borough (scaled)"). By contrast the applicant has only made a comparison of a figure (the wrong solus figure as above) against the national carbon budgets.

22 As I discussed at the ISH2, and also in REP2-022, the traffic model study area provides a proxy local/regional area which may self-scale, see REP2-022, bullet 53 onwards.

23 I suggest that the ExA should consider local policies and carbon budgets when they exist, or may be derived, or represented by proxies, as "*important and relevant*" matters in determining the application.

4 NET ZERO STRATEGY

4.1 Additional information on the Net Zero Strategy

24 Further to section 2.2 of [REP2-022], I wish to provide further information on how the Net Zero Strategy fits in to the legal and policy framework, and the decarbonisation targets set within it.

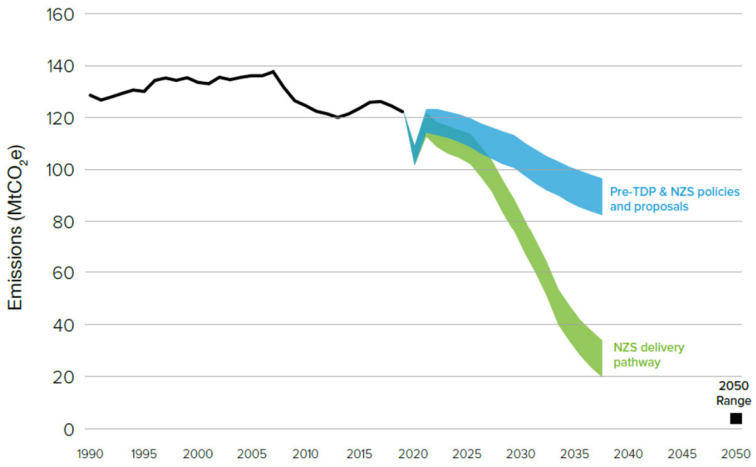
4.2 Surface transport decarbonisation targets in the Net Zero Strategy and the Transport Decarbonisation Plan

25 Figure 21 of the NZS, reproduced below, is a refined version of TDP, Figure 2, also reproduced below. The NZS also provides numerical lower and upper bounds for the emission reductions in the indicative domestic transport emissions pathway to 2037 in the

narrative for Figure 21. These are a fall in residual emissions from domestic transport emissions (excluding aviation and shipping) by around 34-45% by 2030 and 65-76% by 2035, **relative to 2019 levels.**

NZS

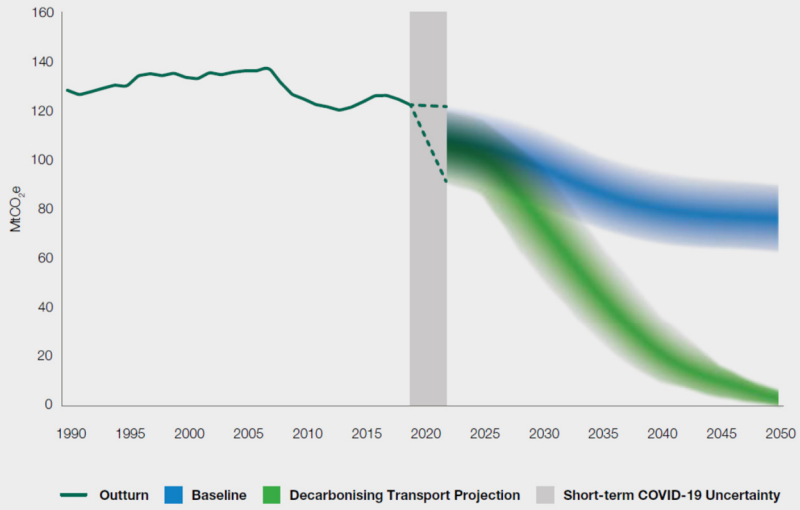
Figure 21: Indicative domestic transport emissions pathway to 2037



Source: BEIS analysis

TDP

Figure 2: Decarbonising Transport domestic transport GHG emission projections, versus the baseline*



* Historic emissions are from published Her Majesty's Government (HMG) GHG statistics. Our projections are produced using a range of models, including the National Transport Model (road transport), and Traction Decarbonisation Network Strategy (rail), and Aviation model, adjusted for decarbonising transport measures. The shipping baseline and projections are based on the latest analysis by the CCC (https://www.theccc.org.uk/publication/sixth-carbon-budget/), which drew on research commissioned by DfT. Given the emerging nature of zero emission shipping fuels, the projections should be interpreted as possible scenarios for meeting the net zero goal that the government has announced for the UK maritime sector rather than estimates of the impact of specific policies. Baseline forecasts are not consistent with the 2019 BEIS Energy and Emission Projections (EEP), as these use different methodologies. Where feasible, uncertainty in projections reflects uncertainty on policy design, GDP, fuel prices, trip rates, and historic volatility in emissions. The range in the policy line declines as we move out to 2050, due to a higher proportion of zero emission vehicles. Transport emission projections exclude military aircraft and shipping.

4.3 Net Zero Strategy in context of the NN NPS

26 The NN NPS 5.16- 5.19 provides guidance on carbon emissions, the legally binding framework under the Climate Change Act, the Applicant's assessment, and decision making. The document refers to the eleven-year-old Carbon Plan (2011), as the plan for meeting carbon budgets; however, footnote 69 makes it clear that "successor documents" should be applied. **The NZS is the most up-to-date successor document under section 13 of the Climate Change Act.** Therefore, the NZS, and the related TDP, are government policies to which the SoS must give weight in determining this DCO Application. Currently, the applicant's Environmental Statement, and responses to the SoS' consultations, are not aligned to the NZS or the TDP.

4.4 Net Zero Strategy in context of the Planning System (NPPF), and this DCO application

27 The NZS is the most up-to-date delivery mechanism for the Climate Change Act (CCA). As such it is a legally binding policy document. CCA Section 13 imposes a duty of the Secretary of State to prepare such a document, and the NZS is the document of proposals and policies that the Secretary of State has prepared, and laid before Parliament under CCA Section 14, to meet the UK carbon budgets and targets.

28 The relevant budgets and targets include:

- The UK Nationally Determined Contribution under the Paris Agreement of 68% reduction of carbon emissions by 2030
- The target of 78% carbon emissions reduction by 2035 under the 6th Carbon Budget
- The 4th, 5th and 6th carbon budgets
- The net-zero target of net-zero carbon emissions by 2050

29 The planning system is required to take account of the NZS, as the NPPF 152 states that the planning system should "*help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions*" whilst NPPF 153 states:

> *"Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures* <*footnote 53*>*."*

Where footnote 53 says "*In line with the objectives and provisions of the Climate Change Act 2008.*"

30 The NZS is the most up-to-date policy document which provides Parliament's proposals and policies to meet the objectives and provisions of the Climate Change Act, and therefore, it is of material weight in planning decisions.

31 Further the NZS itself at page 252 says:

> *"19 We will make sure that the reformed planning system supports our efforts to combat climate change and help bring greenhouse gas emissions to net zero by 2050. For example, as part of our programme of planning reform we intend to review the National Planning Policy Framework to make sure it contributes to climate change mitigation and adaptation as fully as possible."*

32 This indicates that further strengthening of the NPPF can be expected on top of the already very clear alignment of the planning system to the Climate Change Act via the extant NPPF, and to the NZS as the delivery mechanism for the CCA.

5 A417/REP3-013, SECTION 2.3 – APPLICANT'S RESPONSE TO MATTERS RAISED IN CEPP'S DEADLINE 2 SUBMISSIONS

5.1 A417/REP3-013, 2.3.2-2.3.12 - Assessment of Cumulative Effects of Greenhouse Gas Emissions from the Scheme with other Existing and/or Approved Projects

33 The applicant describes their traffic model as being "inherently cumulative" [REP3-013, 2.3.10] as it contains data about:

> *"1) The proposed scheme and adjoining Strategic Road Network and local road Network.*
>
> *2) Other schemes promoted by National Highways in the near vicinity of the proposed scheme with high certainty that they are to be progressed i.e. progressed beyond preferred route announcement stage.*
>
> *3) They are based on discussions with the relevant planning authority, of foreseeable developments promoted by third parties as likely to be developed in a similar timeline to the proposed National Highways' scheme. Knowing where the proposed third party development is to be sited, the extents and types of development, and the timescales of when it is to be completed are requirements to ensure that the third party developments can be reasonably described in the traffic model.*
>
> *4) National government regional growth rates which include a representation of likely growth rates excluding known planning developments already included in the traffic model. This is represented by DfT's NTEM/TEMPRO growth factors for car usage, and growth in freight is derived from DfT's National Transport Model."* [numbering added]

34 I do not dispute that the applicant's traffic model contains all these elements.

5.2 A417/REP3-013, 2.3.2-2.3.12 - Questions posed

35 The problem in the applicant's position is how it then quantifies and assesses the carbon for the scheme via its selection, and extraction, of data from the different possible configurations of the traffic model.

36 I pose two questions. **First**, can the applicant's argument at 2.3.9 and 2.3.10 be summarised in the following notion?

> ***'If** the traffic model contains all known road and land developments in the study, **then** it follows that any combination of data, and any differentiation of that data (eg DS-DM), extracted from the traffic model must also be "inherently cumulative".'*

37 **My answer: "Yes".** The applicant's entire argument about whether they have performed a cumulative assessment of carbon is summarised by this statement.

38 **Second**, is this notion correct? The applicant presumably answers "Yes" as this is the argument which they have persistently used.

39 **My answer: "No".** The notion above is a defective, as the latter (ie: then clause) does not universally follow the former (ie: if clause), as I will now demonstrate below. Paragraph 2.3.10 is the crucial paragraph which demonstrates that the applicant has **only** performed a solus assessment of carbon emissions.

5.3 A417/REP3-013, 2.3.2-2.3.12 - Only a solus assessment is made

40 Having configured a traffic model for the scheme with all the elements listed above within it, the applicant then describes how they quantify the carbon for the scheme as follows:

> *"In terms of operational carbon, the Applicant has evaluated the changes in CO2e emissions of the proposed Scheme by comparing changes in the road traffic on the Strategic Road Network and local road network between the 'without scheme scenario' and the 'with scheme scenario'."*

41 The applicant, here, identifies a single calculation of "the changes in CO_2e emissions of the proposed Scheme" from the many possible calculations available. By the applicant's own advocacy, this is the **only** calculation which they perform in the Environmental Statement, and the only calculation which they are saying is required.

42 However, this calculation produces a differential quantity of carbon emissions for the scheme which is the difference (DS-DM), **solely**, of the all the elements of the network [ie: 1) to 4) above] as the DS case, and all the elements of the network except the scheme as the DM case. This is a solus quantification. Notwithstanding that it is the wrong solus calculation, it is also

not the only quantification required; the EIA Regulations also require a cumulative quantification, and the SoS has invited the applicant to provide it.

43 Below I have modified Table 1 submitted in A417/REP2-020 so that it aligns with the broad elements 1) to 4) listed above, and illustrates the calculation made. This is a simplification: A417/REP2-020/Table 1 spelt out the 11 Local transport developments, 39 Wider-area transport developments, 85 land-use developments, Freight growth, Airport traffic growth but this detail is not required here.

	Performance-oriented (ie as in APP-426 and APP-422)	
Model configuration name	DM (Perf, baseline)	DS (Perf, all)
2015 Baseline Highway network (1)	✓	✓
A417 Missing Link scheme (1)	×	✓
Other schemes promoted by National Highways (2)	✓	✓
Foreseeable developments promoted by third parties (3)	✓	✓
National government regional growth rates (4)	✓	✓

Table 1

44 The red ellipse indicates the only change in the configuration between the DM and DS scenarios is the presence, or not, of the A417 scheme in the modelling, as the applicant identifies in the quoted statement above.

45 The important point is that although the DS and DM traffic models in this case may be described as "inherently cumulative", **the quantification produced by the differentiation (DS-DM) is "solus" in the sense described by Mr Justice Holgate in in Pearce v BEIS [2021] EWHC 326 (Admin)** provided at Appendix F. For the EIA Regulations, it is necessary to clearly distinguish solus and cumulative assessment, as Mr Justice Holgate does: solus[5] being the impacts of a scheme in isolation. In the Pearce case, Mr Justice Holgate ruled that the evaluation of (onshore) environmental impacts was required **both** for the windfarm in question (under DCO planning application) in isolation (**ie solus**), and also the windfarm in combination with another windfarm which was undergoing a parallel DCO planning application (**ie cumulative**).

5.4 A417/REP3-013, 2.3.2-2.3.12 – What is the influence of other developments?

46 The applicant continues [2.3.11, second sentence]:

> *"This takes into account the assessment of the Proposed Development and all other developments likely to have an influence on the Proposed Development and on the area the Proposed Development is likely to influence."*

[5] Solus means, here, "alone; separate" as in the first definition in the Collins on-line dictionary [redacted].

47 It is a truism that the presence of all elements of data in the traffic model has an influence on its outputs, but it is not a particularly helpful truism in understanding the carbon impacts of the scheme and how to extract them from the model meaningfully. There are two key issues here:

- Fundamentally, the "influence" of all other developments **is not the same** as **quantifying** their environmental impact, in this case on the EIA receptor of global GHG emissions, which is what the EIA Regulations require. The presence of their influence on the data output is not the same as quantifying their environmental impact, as measured in tCO_2e, and is no substitute for it.

- The nature and quantification of the "influence" is not addressed. This can be understood by considering another possible **solus** quantification based also on a (DS-DM) differentiation but from different configurations of the traffic model. This is derived from REP2-020, Table 2 and simplified for consistency with the applicant's presentation at REP3-013/2.3.10.

	EIA Regs compliance-oriented (eg: for impact assessment of GHGs)	
Model configuration name	*DM (GHG, baseline)*	*DS (GHG, scheme)*
2015 Baseline Highway network (1)	✓	✓
A417 Missing Link scheme (1)	×	✓
Other schemes promoted by National Highways (2)	×	×
Foreseeable developments promoted by third parties (3)	×	×
National government regional growth rates (4)	✓	✓

Table 2

48 Here, the quantification is made by considering the scheme when it is added, in isolation or solus, to the current environmental baseline. In this case, there is no influence from other developments which may follow after the scheme's implementation. This model provides a more accurate description of the journey trips which are attributable to the scheme itself as it quantifies the impact of building out the scheme into the current environmental baseline.

In the applicant's solus calculation (ie as specified by this document's Table 1 above) journey trips attributable to the scheme may actually be accounted for in the DM case. This raises the quantum of the DM, and reduces the DS-DM differential, making it an underestimate of the real solus impacts of the scheme. This shows how the effects of the other developments have an influence which distorts even the solus quantification. Further, the quantification of the tCO_2e associated with the other developments, required for the cumulative assessment, has not been made.

49 This shows that the by-far preferrable way to understand the carbon emissions of the scheme, in isolation, is to perform the solus quantification against the current environmental baseline (ie as specified by this document's Table 2 above), and then

perform the applicant's version (ie as specified by this document's Table 1 above) as a sensitivity test on the "influence" that results from considering the other development.

5.5 A417/REP3-013, 2.3.2-2.3.12 – Performance-oriented vs EIA Regs compliance oriented traffic modelling

50 In Table 1 and 2 above, I have referred the two different architectural schemas as "performance-oriented" (Table 1), and "EIA Regs compliance oriented" (Table 2). The reason for this is that in Table 1, the two traffic model configurations (ie: DS and DM) which are deployed are geared to assessing operational performance. Whereas the two models in Table 2 show the effect of placing the scheme in the current environmental situation, and therefore is better for assessing the environmental impacts of the scheme in isolation, or solus.

51 Performance is an important design issue, and it is vital to test aspects of the transport network of interest to highways engineering. It is important to test the network with all the other developments, present the configurations in Table 1, to provide value towards that purpose. My submission does not seek to address the success, or not, of this aspect of the transport case. The performance issues that this approach to the modelling is designed to answer are described in APP-426 and APP-422, and elsewhere.

52 However, this approach, and the knowledge and skills developed by traffic modellers, pre-date the current time when assessment of carbon emissions has become an important factor in planning policy and law. For carbon emissions, a complementary "EIA Regs compliance oriented" architecture is required, as shown above in Table 2 for solus quantification, and in Table 3 below for cumulative quantification.

5.6 A417/REP3-013, 2.3.2-2.3.12 – Cumulative assessment

53 Returning to the requirements of the EIA regulations, and the fundamental requirement, for **quantifying** the environmental impacts of the scheme with all other developments for cumulative carbon assessment. This may be done as I previously submitted in REP2-020/Table 2, simplified below [as Table 3 in this document]. The required calculation is *DS (GHG, all) – DM (GHG, baseline)* in my nomenclature which has been fully explained in REP2-020. Arrows have been added below this version of the Table to make the intended meaning of the two different solus carbon quantifications described above, and the cumulative carbon quantification, required by the EIA Regulations, entirely clear.

	Performance-oriented (ie as in APP-426 and APP-422)		EIA Regs compliance oriented (for impact assessment of GHGs)		
Model configuration name	*DM (Perf, baseline)*	*DS (Perf, all)*	*DM (GHG, baseline)*	*DS (GHG, scheme)*	*DS (GHG, all)*
2015 Baseline Highway network (1)	✓	✓	✓	✓	✓
A417 Missing Link scheme (1)	×	✓	×	✓	✓
Other schemes promoted by National Highways (2)	✓	✓	×	×	✓
Foreseeable developments promoted by third parties (3)	✓	✓	×	×	✓
National government regional growth rates (4)	✓	✓	✓	✓	✓

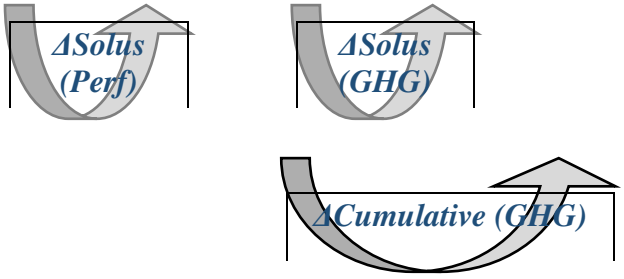


Table 3

54 In summary:

i. The applicant has identified that it has performed a single quantification of carbon. It is a solus quantification, and any assessment based on comparing it to benchmarks (such as the NZS and TDP delivery pathways, or carbon budgets) is consequently also only a solus assessment. This has already been explained in detail in REP2-020.

ii. The solus quantification is the wrong solus quantification. The carbon emissions of the scheme against the existing environmental baseline need to be quantified, assessed and understood first (DS-DM as specified by this document's Table 2 above).

The applicant's DS-DM (ie as specified by this document's Table 1 above) could be an interesting sensitivity test (for carbon emissions), but it should not be considered as their primary solus quantification (and assessment) for carbon emissions.

I understand that the modelling architecture expressed in Table 1 is the appropriate modelling architecture for interrogating operational performance issues, and, indeed, that is historically why the modelling community have stratified on this singular approach. As I discussed above, the era of analysing and inspecting how our society uses the extremely scarce resource of remaining usable carbon emissions, which has brought carbon quantification and assessment against climate laws to the fore, requires a complementary architecture. And so do the requirements of the EIA Regulations.

iii. The ExA invited the applicant to identify its cumulative quantification and assessment of the carbon impacts of the schemes. The applicant has been unable to do so. Therefore, the Environmental Statement remains non-compliant with the EIA Regulations, and further work is still required by the applicant: a cumulative quantification of the carbon impacts of the scheme should be made, and an assessment based upon that. This would be based upon running the traffic model configurations, and calculating *DS (GHG, all) – DM (GHG, baseline)* as specified by this document's Table 3 above.

55 For absolute clarity, the narrative above applies to all carbon emissions data sets that have been provided by the applicant for the operational road-user emissions.

5.7 A417/REP3-013, 2.3.2-2.3.12 - Assessment of Cumulative Effects – PINS Advice Note 17

56 The applicant continues at REP3-013/2.3.12:

> *'In essence, as both with and without scheme scenarios already include all likely developments and traffic growth factors, the assessment is inherently cumulative as regards operational carbon emissions. This is recognised in general terms in paragraph 3.4.4 of the Planning Inspectorate's Advice Note 17 ("Cumulative effects assessment relevant to nationally significant infrastructure projects"), the first two sentences of which state that:*
>
> > *"Certain assessments, such as transport and associated operational assessments of vehicular emissions (including air and noise) may inherently be cumulative assessments. This is because they may incorporate modelled traffic data growth for future traffic flows. Where these assessments are comprehensive and include a worst case within the defined assessment parameters, no additional cumulative assessment of these aspects is required (separate consideration may be required of the accumulation or inter-relationship of these effects on an individual set of receptors e.g. as part of a socio economic assessment)."'*

57 The first sentence is false. As demonstrated above, the quantification and assessment made by the applicant of carbon emissions in the Environmental Statement is simply and purely **a solus one**. I have shown above that it is a defective notion that including all likely developments and traffic growth factors in the traffic model, necessarily generates a cumulative quantification and assessment of carbon impacts.

58 PINS Advice note 17 does not address cumulative carbon assessment. There is no reference to it in the quoted section, but furthermore there is no reference to cumulative carbon assessment in the entire document[6]. Whilst the PINS Advice note 17 is part of a suite of

[6] [redacted] accessed 18th March 2022

general, and often helpful, advice provided by the Planning Inspectorate, it has no statutory status as the website states.

59 The writers of PINS Advice Note 17 used the word "may" in the first sentence of paragraph 3.4.4 indicating that they understood that it was not universally true that assessments would be "inherently cumulative" just on the basis of the traffic model including traffic data growth for future traffic flows.

60 I have unambiguously shown that the distinguishing feature on the applicant's approach is that it is based on calculating differential emissions, that is DS-DM where DS and DM are absolute carbon emission values output from the traffic model. The quantification and assessment are not inherently cumulative when differential emissions are calculated based on just "with scheme" and "without scheme" models (the inclusion of the scheme, or not, being the only element of difference). The reason is that even if planned changes to the highway network and foreseeable third-party developments are included in each model (input to the calculation), their effects ("influence") on carbon emissions are cancelled out by the subtraction process. This is also clear by considering Tables 1, 2 and 3 above.

61 The applicant appears to have taken this PINS Advice note which does not consider the issue of cumulative carbon assessment, and holds no statutory status and tried to apply it to their case. In referring to its relevance "*in general terms",* the reality is that the note offers no support for the applicant's case.

62 I conclude that Planning Inspectorate's Advice Note 17 gives no support to the applicant's claims in REP3-013, and accordingly the Secretary of State should also inevitably conclude that no weight can be applied to the note in this context.

5.8 A417/REP3-013, 2.3.13-2.3.23 - The Appropriate Geographical Scale of Assessment of Greenhouse Gas Emissions

63 Assessment against local policies and carbon budgets and targets should be made. This has been covered in REP2-022 where I provided the EIA Guidance documents to the examination, and in the IEMA guidance document as above.

64 The traffic model study area itself may be used as a proxy geographical area (noting, that it does not include all network links, but it largely includes those which are most relevant to carbon emissions) and tested against the NZS (and TDP) targets for 2030 and 2035. This would provide a simple way to gain an assessment at the local and regional level.

65 Assessment should also be performed against the science-based local authority carbon budgets for the world leading Tyndall Centre at the University of Manchester, known as SCATTER budgets.

5.9 A417/REP3-013, 2.3.13-2.3.23 - Transport sector targets

66 The applicant fails to identify that the NZS now provides a sector specific target for surface transport under UK Climate Change legislation. It has also failed to withdraw its repeated assertion that there is no sector specific target for transport.

67 The applicant states:

> *"Neither Parliament nor Government has identified any sectoral targets for carbon reductions related to transport, or any other sector. There is no requirement in the CCA 2008, or in Government policy, for carbon emissions for all road transport to become net zero."*

and refers to *R(Transport Action Network) v Secretary of State for Transport [2021] EWHC 2095 (Admin)* ("the TAN case"). However, the TAN case judgement was in July 2021 whilst the Net Zero Strategy was published in October 2021. The Net Zero Strategy has been laid before Parliament under section 13 and 14 of the Climate Change Act and provides the up-to-date legal and policy framework to be considered within the context of the NPS NN.

68 The Net Zero Strategy (NZS) and the Transport Decarbonisation Plan (TDP) update the policy framework since the TAN case. Both documents provide the same sector specific decarbonisation pathway, and implied targets, for the surface transport sector, and the NZS is legally binding policy under section 13 of the Climate Change Act 2008 (CCA).

69 The NZS delivery pathway, related to road transport, in the Figure below corresponds to a fall in residual emissions from domestic transport emissions (excluding aviation and shipping) by around 34-45% by 2030 and 65-76% by 2035, **relative to 2019 levels** (see Figure 21 from the NZS reproduced above).

70 The applicant has claimed that there is no sector specific target under UK Climate Change legislation. However, the NZS (and TDP) which is the delivery policy document for achieving the CCA targets and budgets has clearly laid out an indicative delivery pathway for surface transport as one of the 11 sectors under the Climate Change Act budgets. **This is a sector specific target for surface transport under UK Climate Change legislation.**

71 Despite the very clear material relevance of the NZS to appraisal of carbon in road schemes under the NN NPS, as outlined above, the applicant has failed to mention the NZS targets, indicative delivery pathways, for surface transport.

72 As described in the NZS section above, with the NZS, the Climate Change Act is a material consideration for this scheme, and this is supported by NPPF 153, footnote 53, and NN NPS, footnote 69.

5.10 A417/REP3-013, 2.3.24-2.3.28 - How the Assessment Presented for the Scheme Complies with the Environmental Impact Assessment Regulations

73 I have shown in previous sections that the Applicant has not quantified, nor assessed, the cumulative impacts of the development proposed together with those from other "existing and/or approved projects".

74 The applicant claims at 2.3.27 that it "can only assess the change in CO_2e emissions from the Scheme in absolute terms". However, the quantifications that the applicant calculates are differential in nature, being differences (DS-DM) of configurations of the traffic model, **so this statement is misleading.** The differential emission quantities do not reflect the scale of the absolute emissions in the study area with the scheme. The absolute emissions value is the realistic quantification of the transport emissions for the study area, as part of local, regional or national carbon budgets.

75 The NPS NN section 4.15 invokes the EIA Regs and states that the Directive as transposed into UK law *"specifically requires an environmental impact assessment to identify, describe and assess effects on … climate …"*. The EIA Regs Schedule 4 is invoked which requires "*the likely significant effects of the proposed project on the environment, covering the **direct effects** and any indirect, secondary, **cumulative**, **short, medium and long-term**, permanent and temporary, positive and negative effects of the project*" to be described in the EIA.

The second highlighted section from NPS NN 4.15 above is directly "cut and paste" from the wording in the EIA Regs themselves, indicating it was the DfT's intention in the NPS NN that significant effects, impacts or benefits as described are included in the Environmental Statement.

76 Again the EIA Regs are invoked for the assessment of carbon emissions at NPS NN 5.17 which states "*any Environmental Statement will need to describe an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive.*"

77 The Applicant's assessment in the Environmental Statement has not met these requirements of the NPS NN, and has not demonstrated the assessment of ***cumulative impacts.***

78 I also refer the ExA to previous submissions on the EIA Regulations and the NN NPS at A417/[REP2-020], section 3.4, section 5, Appendix A and Appendix B, and A417/[REP2-022], section 3.1.

79 I particularly refer the ExA to A417/[REP2-020], section 3.4, bullets 45-50. *"The matter here is not about **either** the EIA Regulations "winning over" the NPS NN, **or** the reverse of the NPS NN winning over the EIA Regulations. The ExA and SoS are required to take account of, and apply, both pieces of legislation (ie it is an **and-and** situation)."*

6 A417/REP3-013, SECTION 2.3 – APPLICANT'S RESPONSE TO MATTERS RAISED IN CEPP'S DEADLINE 2 SUBMISSIONS – FURTHER COMMENTS

6.1 How the Assessment Complies with Various Carbon Budgets and Wider Carbon Policies

80 On the A38 Derby Junctions scheme, under a DfT consultation, and the A57 Links Road scheme, still under an NSIP DCO examination, further information has been supplied under the title "*How the Assessment Complies with Various Carbon Budgets and Wider Carbon Policies*". Similar responses has been supplied also on a number of other schemes. See A38/RESP-8.122 supplied in Appendix D and A57/REP5-026 supplied in Appendix E.

81 The responses are canonical in that the same answers have been given on each scheme with variations just to the actual numerical data presented relevant for each scheme, and other minor but non-significant differences.

82 I refer the ExA to A57/REP5-026/2.2.30 which states:

> *"The DfT have advised National Highways that a sensitivity test based on the impact of the policy measures set out in TDP can now be undertaken for schemes. The DfT have approved a sensitivity test based on the rate of improvement shown in Figure 2 of the TDP which can be applied to CO_2e emissions calculated for the Scheme assessment."*

83 The test referred to by the Applicant as the "TDP Sensitivity test". The Applicant has not yet provided this new methodology for the A417 scheme. **I request that the ExA requires this test, and a full presentation of the methodology, as it is now being presented on other schemes by the Applicant to claim that its assessment complies with various carbon budgets and wider carbon policies.**

84 I have examined the method on a number of other schemes. Based on that, in order for the presentation of data provided by the applicant to be "examinable" by the ExA, these questions must be answered along with the presentation of the TDP Sensitivity test.

1) Does "TDP Sensitivity test" use the traffic model study area as a proxy geographical area?

2) Sensitivity analysis is the study of how the uncertainty in the output of a mathematical or computer model can be understood and proportioned statistically to different sources of uncertainty in its inputs. How is this done in the TDP Sensitivity test?

3) How is the uncertainty of an input to the traffic modelling and carbon quantification reflected in the output of the TDP Sensitivity test? Examples are needed.

4) What is meant by "applied" – literally what is being applied in paragraph quoted above (eg: A57/REP5-026/2.2.30)? Full details of data and algorithms should be supplied.

5) Is the TDP Sensitivity test being applied within the traffic model (ie is the new methodology integrated into the traffic model framework?), or is its being applied to the carbon quantification output from the traffic model as a post-processing step?

6) Does the TDP Sensitivity test quantify the individual policies in the TDP within the study area, and if so, how?

7) Does the TDP Sensitivity test quantify local transport policies, and if so, how?

8) What work has been done to compare the assumptions in the TDP policies against the assumptions built into the traffic model for the scheme? Has this been quantified?

9) As the scheme was designed many years before the TDP was published, what work has been done to test the scheme objectives and assumptions against the TDP policies? Again, has the carbon quantification ramifications of this been determined?

10) Is there double counting between EfT v11 and the TDP sensitivity test? This could be across all policies in the TDP, but the quantification of electric vehicle policy on carbon emissions would the most obvious example.

7 NN NPS carbon test

7.1 The carbon test and significance in the NN NPS

85 NN NPS 5.16 is the introduction on carbon emissions. Footnote 69 refers to the 2011 Carbon Plan, an outdated document, but also refers to successor documents. The successor document under CCA 2008, section 13 is the Net Zero Strategy. Therefore the Secretary of State is required to give weight to the NZS in his decision.

86 The final sentence of NN NPS 5.18 is "*Therefore, any increase in carbon emissions is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the proposed scheme are so significant that it would have a material impact on the ability of Government to meet* ***its carbon reduction targets***.".

87 The extant carbon targets are, nationally, from a 1990 baseline:

i. The UK Nationally Determined Contribution under the Paris Agreement of 68% reduction of carbon emissions by 2030

ii. The target of 78% carbon emissions reduction by 2035 under the 6th Carbon Budget

And for the road transport sector, from the NZS, and from a 2019 baseline:

iii. 34-45% by 2030 and 65-76% by 2035

The applicant has not made an assessment against the above national ***carbon reduction targets.*** It has only made an assessment against carbon budgets (notwithstanding the fact that I do not agree the assessment against the entire national carbon budget is meaningful or reliable).

88 The applicant is therefore required to supply an assessment against these carbon reduction targets.

89 Given the IEMA guidance that local targets are *"more pertinent"*, it would be valuable to assess the scheme against the NZS delivery pathway based on the study area as a proxy for the local and regional area.

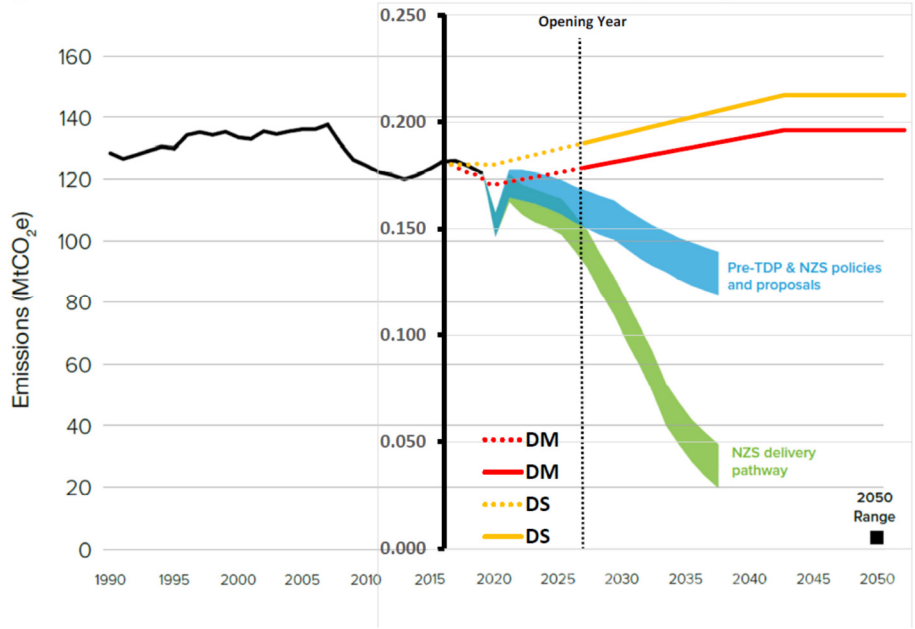
7.2 Indicative local carbon reduction test and significance NN NPS

90 On basis that the traffic model study area provides a proxy local/regional area which may self-scale, see REP2-022, bullet 53 onwards, and discussed at the ISH2, I have constructed a simple indicative test.

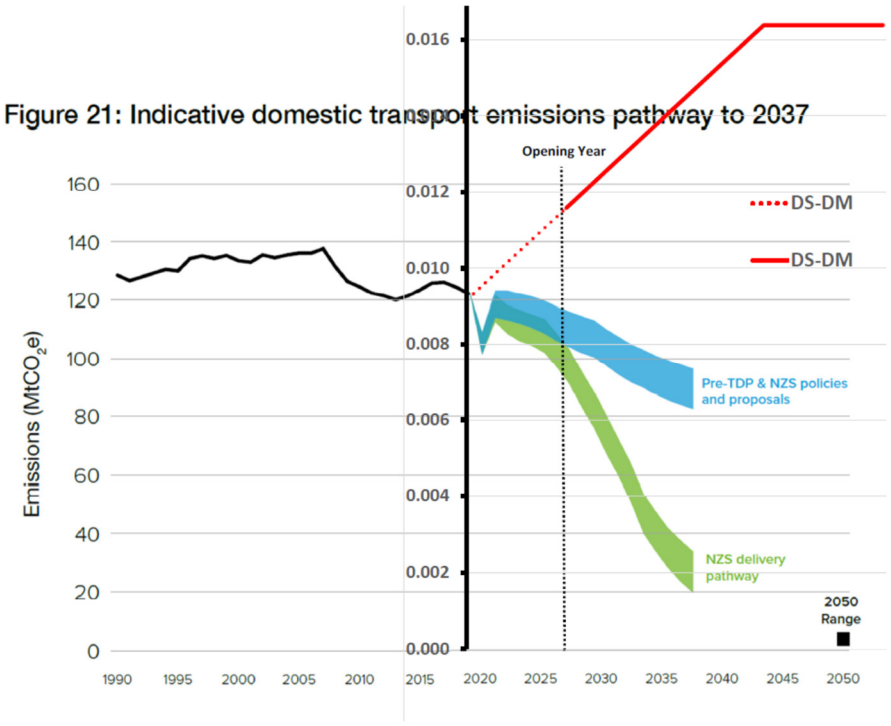
91 This uses the data that I had previously derived at REP2-022, Table 5. This table provided data at various years between 2016 and 2041 for DS and DM, and compares it to the NZS. I have now prepared this in graphical form by overlaying the data on the NZS, Figure 21 graph. Further, I have drawn the graph for DS-DM data. These are shown below.

92 As the method involves backcasting the data to the 2019 Proxy and to 2016, I have shown the data from before the scheme proposed opening year of 2026 dashed. This backcasted data follows the same assumptions as the other data, as laid out in section 4 of REP2-022. It also contains the traffic growth assumptions in the traffic model as laid out in the Environmental Statement. (The DS and DM data has been plotted from 2016, and the DS-DM from 2019).

Figure 21: Indicative domestic transport emissions pathway to 2037



93 The data from the Environmental Statement shows that both the DS and DM traffic models increase carbon emissions, and that they are completely outside the bounds of the NZS delivery pathway.



94 The situation with the DS-DM data is worse. As it can be seen, carbon emissions due to the solus calculation DS-DM (NB: the wrong solus calculation as previously explained, but the one which the applicant uses for its assessment) rapidly grow. Again showing carbon emission increases which are completely outside the bounds of the NZS delivery pathway.

95 These plots confirm the conclusion in REP2-022 that the scheme demonstrates a huge emissions gap with respect to meeting both the 2030 and 2035 delivery pathways from the Net Zero Strategy.

8 FURTHER WORK REQUIRED

96 Further work and additions to the Environmental statement have been identified in this document and these include:

A. Carbon quantification and assessment against national **carbon reduction targets** as required by NN NPS 5.18.

B. Cumulative carbon quantification and assessment compliant with the EIA Regulations.

C. Assessment against local policy, and carbon budgets and targets.

D. Assessment against the science-based local authority area carbon budgets for the Tyndall Centre at the University of Manchester (SCATTER).

E. Delivery of the "TDP Sensitivity test" which is now being performed on other schemes in the DCO process.

F. Full explanation of the "TDP Sensitivity test" methodology. Answers to my 10 questions on it above. A full assessment of the scheme using the data against the relevant carbon reduction targets and carbon budgets.

G. Full data and algorithmic transparency on the modelling behind the TDP policies and the NZS delivery pathways.

H. Full data and algorithmic transparency with respect to the "TDP Sensitivity test".

97 This clearly would be a way to require the additional work required. However, the scale of the work identified is probably both too much for the applicant to deliver in the remaining weeks of the examination, and too much for interested parties to respond to with comments before the end of the examination. I respectfully suggest to the ExA that EIA Regulation 20 might serve as a preferable mechanism to the standard Rule 17 procedure for ensuring the Environmental Statement is adequate, and which would also be fairer to all parties.

9 CONCLUSIONS

98 The application does not comply with the EIA regulations as laid out above as a cumulative assessment of carbon impacts does not exist in the Environmental statement. In additional, further information is required, and required by EIA Schedule 4(6) and the Aarhus convention.

99 Currently, there is not a viable route to proceed, with the current Environmental Statement, which ensures that the SoS can be satisfied that the material provided by the applicant is sufficient for him to reach a reasoned conclusion on the significant effects of the proposed development on the environment.

100 This is in addition to missing data, and calculations, identified in REP2-022 and REP2-020.

101 A Rule 17 letter or suspension of the examination under EIA Regulation 20 are options to obtain the information.

102 If the information cannot be provided, the application should be refused.

Dr Andrew Boswell,
Climate Emergency Policy and Planning, April 11th, 2022

10 APPENDIX A: INSTITUTE OF ENVIRONMENTAL MANAGEMENT & ASSESSMENT (IEMA) GUIDE: ASSESSING GREENHOUSE GAS EMISSIONS AND EVALUATING THEIR SIGNIFICANCE", VERSION 2, FEB 2022

Supplied as separate document

11 APPENDIX B: TRANSPORT DECARBONISATION PLAN

Supplied as separate document

12 APPENDIX C: NET ZERO STRATEGY

Supplied as separate document

13 APPENDIX D: A38 DERBY JUNCTIONS [TR010022] Volume 8.122, APPLICANT'S RESPONSES TO THE SECRETARY OF STATE'S CONSULTATION LETTER ISSUED 7TH JANUARY 2022 A38/[RESP-8.122]

Supplied as separate document

14 APPENDIX E: A57 LINKS ROAD [TR010034] "9.59 APPLICANT'S RESPONSE TO ISSUE SPECIFIC HEARING 2 ITEM 6 C) AND D)" A57/[REP5-026].

Supplied as separate document

15 APPENDIX F: PEARCE V BEIS [2021] EWHC 326 (ADMIN) JUDGEMENT

Supplied as separate document

Submission number: 006

Date submission received by PINS: 10/05/2022

Name: CEPP

Description: CEPP attachment 5

European Commission

Environmental Impact Assessment of Projects

Guidance on the preparation of the Environmental Impact Assessment Report

(Directive 2011/92/EU as amended by 2014/52/EU)

Environment

Printed in Luxembourg

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server [redacted]

Paper	ISBN 978-92-7974373-3	KH-04-17-939-EN-C	doi:10.2779/8247
PDF	ISBN 978-92-7974374-0	KH-04-17-939-EN-N	doi:10.2779/41362

Cover:
[redacted]

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This document benefited from Specific Contract No 070201/2016/729522/SER/ENV.D.1 under Framework Contract No ENV.F.1/FRA/2014/0063, implemented for the European Commission by COWI A/S and Milieu Ltd.
The main authors were: Adrien Lantieri, Zuzana Lukacova, Jennifer McGuinn, and Alicia McNeill from Milieu Ltd

Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU)

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GLOSSARY OF TERMS

Key terms used in the guidance documents are explained in the Glossary below.

Term	Explanation
2012 IA Study	Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and the Council amending Directive 2011/92/EU on the assessment of the effects of certain public and private Projects on the environment, SWD/2012/0355 final
Alternatives	Different ways of carrying out the Project in order to meet the agreed objective. Alternatives can take diverse forms and may range from minor adjustments to the Project, to a complete reimagining of the Project.
Baseline scenario	Description of the current status of the environment in and around the area in which the Project will be located. It forms the foundation upon which the assessment will rest.
Candidate Countries	Countries which are seeking to become Members States of the European Union.
Competent Authority (CA)	The authority which the Member States designate as responsible for performing the duties arising from the Directive.
Cumulative effects	Changes to the environment that are caused by activities/projects in combination with other activities/projects.
Developer	The applicant for a Development Consent on a private Project or the public authority which initiates a Project.
Development Consent	The decision of the Competent Authority or Authorities which entitles the Developer to proceed with the Project.
EIA Directive	European Union Directive 2011/92/EU, as amended by Directive 2014/52/EU on assessment of the effects of certain public and private Projects on the environment
EIA process (or EIA)	The process of carrying out an Environmental Impact Assessment as required by Directive 2011/92/EU, as amended by Directive 2014/52/EU on assessment of the effects of certain public and private Projects on the environment. The EIA process is composed of different steps: preparation of the EIA Report, publicity and consultation and decision-making.
EIA Report	The Environmental Impact Assessment Report is the document prepared by the Developer that presents the output of the assessment. It contains information regarding the Project, the likely significant effect of the Project, the Baseline scenario, the proposed Alternatives, the features and Measures to mitigate adverse significant effects as well as a Non-Technical Summary and any additional information specified in Annex IV of the EIA Directive.
Measures to mitigate (Mitigation Measures)	Measures envisaged to avoid, prevent or reduce any identified significant adverse effects on the environment
Measures to monitor (Monitoring Measures)	Procedures to keep under systematic review the significant adverse effects on the environment resulting from the construction and operation of a Project, and to identify unforeseen significant adverse effects, in order to be able to undertake appropriate remedial action.
Member States (MS)	Countries which are members of the European Union
Measures to compensate / offset (Compensation Measures)	Measures envisaged to offset any identified significant adverse effects on the environment.
Non-Technical Summary	An easy-to-follow and understandable summary of the information included in the EIA Report addressed to a non-technical audience.
Project	The execution of construction works or of other installations or schemes, and/or other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources.
Reasoned Conclusion	The explanatory statement made by the Competent Authority on the significant effects of the Project on the environment, based on the examination of the EIA Report and, where appropriate, on the results of its own supplementary

	examination.
Screening	The process of determining whether a Project listed in Annex II of the EIA Directive is likely to have significant environmental effects.
Screening Decision	Decision taken by the Competent Authority on whether a Project listed in Annex II will be made subject to the EIA procedure.
Scoping	The process of identifying the content and extent of the information to be submitted to the Competent Authority under the EIA process.
Scoping Opinion	The Competent Authority's decision on the Scoping process.

LIST OF ABBREVIATIONS

Key abbreviations used in the guidance documents are detailed in the list below.

Abbreviation	Full name
AA	Appropriate Assessment
Aarhus Convention	Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters
BISE	Biodiversity Information System for Europe
CDCIR	Community Documentation Centre on Industrial Risk
CJEU	Court of Justice of the European Union
CLIMATE-ADAPT	European Climate Adaptation Platform
EIB	European Investment Bank
EIONET	European Environment Information and Observation Network
EMIS	Environmental Marine Information System
EMODNET	European Marine Observation and Data Network
ePRTR	European Pollutant Release and Transfer Register
ESPOO Convention	Convention on Environmental Impact Assessment in a transboundary context
GBIF	Global Biodiversity Information Facility
GEO BON	Group on Earth Observations Biodiversity Observation Network
GMEP	Global Marine Environment Protection
IED	Industrial Emissions Directive
INSPIRE	Infrastructure for Spatial Information in the European Community
IPCC	Intergovernmental Panel on Climate Change
JRC	Joint Research Centre
LCA	Life Cycle Assessment
LEAC	Land and Ecosystem Accounting
LIFE +	The EU's Financial Instrument for the Environment
MSFD	Marine Strategy Framework Directive
PCI	Project of common interest
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RBMP	River Basin Management Plans
SEA	Strategic Environmental Assessment
TEN-E	Trans-European Networks for Energy
TEN-T	Trans-European Networks - Transport
UNFCCC	United Nations Framework Convention on Climate Change
WFD	Water Framework Directive
WISE	Water Information System for Europe

PREFACE

In 2001, the European Commission published three EIA Guidance Documents concerning specific stages in the EIA process: Screening, Scoping, and Environmental Impact Statement Review. These documents have been updated and revised to reflect both the legislative changes brought about since the publication of the original guidance documents and the current state of good practice.

These three updated documents concern the following three specific stages of the EIA process:

- EIA Guidance Document on Screening;
- EIA Guidance Document on Scoping;
- EIA Guidance Document on the preparation of the EIA Report.

What is the aim of the Guidance Documents?

The aim of the Guidance Documents is to provide practical insight to those who are involved during these stages in the EIA process, drawing upon experiences in Europe and worldwide.

The Screening and Scoping EIA guidance documents aim to improve the decisions taken on the need for an EIA and the terms of reference on which the assessment is made. These two documents focus on getting the EIA process started well.

The preparation of the EIA Report guidance aims to help Developers and consultants alike prepare good quality Environmental Impact Assessment Reports and to guide competent authorities and other interested parties as they review the Reports. It focuses on ensuring that the best possible information is made available during decision-making.

Who can use the Guidance Documents?

The three EIA Guidance Documents are designed for use by competent authorities, Developers, and EIA practitioners in the European Union Member States and, where applicable, by Candidate Countries. It is hoped that they will also be of interest to academics and other organisations who participate in EIA training and education, to practitioners from around the world, as well as to members of the public.

Who prepared the Guidance Documents?

The original 2001 EIA Guidance Documents were prepared by Environmental Resources Management (ERM) under a research contract with the Directorate General for Environment of the European Commission. The revised 2017 EIA Guidance Documents have been prepared by Milieu Ltd and COWI A/S under a service contract specific contract number 070201/2016/729522/SER/ENV.D.1. to framework contract ENV.F.1/FRA/2014/0063 with the Directorate General for Environment of the European Commission.

How can I get a copy of the Guidance Documents?

Copies of the Guidance Documents can be downloaded from the website of the Directorate General Environment of the European Commission at [redacted]

EIA: concept and stages

The Environmental Impact Assessment (EIA) of Projects is a key instrument of European Union environmental policy. It is currently governed by the terms of European Union Directive 2011/92/EU, as amended by Directive 2014/52/EU on the assessment of the effects of certain public and private Projects on the environment (EIA Directive).

Since the adoption of the first EIA Directive in 1985 (Directive 85/337/EEC), both the law and EIA practices have evolved. The EIA Directive was amended by Directives 97/11/EC, 2003/35/EC, and 2009/31/EC. The Directive and its three amendments were codified in 2011 by Directive 2011/92/EU. The codified Directive was subsequently amended by Directive 2014/52/EU. This guidance document focuses on the modifications made to the EIA Directive since 2001, with a particular emphasis on the key changes brought about by the most recent 2014 amendment to the Directive, which Member States have to transpose into their national legal systems by 16 May 2017.

The EIA Directive requires that public and private Projects that are likely to have significant effects on the environment be made subject to an assessment prior to Development Consent being given. Development Consent means the decision by the Competent Authority or authorities that entitles the Developer to proceed with the Project. Before Development Consent can be granted, an EIA is required if a Project is likely to impact significantly upon the environment. Article 2(1) of the EIA Directive (see box below) sets out the Directive's overarching requirement.

Box 1: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 2(1)

Member States shall adopt all measures necessary to ensure that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment.

The guidance documents in this series cover three stages involved in EIA: Screening, Scoping, and the Preparation of the EIA Report.

The 'Screening stage' ascertains whether the Project's effects on the environment are expected to be significant, i.e. the Project is 'Screened' to determine whether an EIA is necessary. Projects listed in Annex I to the Directive are automatically subjected to an EIA because their environmental effects are presumed to be significant. Projects listed in Annex II to the Directive require a determination to be made about their likely significant environmental effects. The Member State's Competent Authority make that determination through either a (i) case-by-case examination or (ii) set thresholds or criteria.

The 'Scoping stage' provides the opportunity for Developers to ask Competent Authorities about the extent of the information required to make an informed decision about the Project and its effects. This step involves the assessment and determination, or 'scoping', of the amount of information and analysis that authorities will need.

The information relating to a Project's significant effects on the environment is gathered during the third stage: the preparation of the EIA Report.

These three stages are complemented by specific steps in the EIA process. This is defined in Article 1(2)(g) (see box below) which provides a definition of the Environmental Impact Assessment by describing the EIA process.

Box 2: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 1(2)(g)

For the purposes of this Directive, the following definitions shall apply:

[…]

(g) 'environmental impact assessment' means a process consisting of:

(i) the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and (2);

(ii) the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;

(iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;

(iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination; and

(v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a.

The figure below sets out an overview of the stages and steps usually taken when completing an EIA. As mentioned above, implementation arrangements for these stages may vary slightly between Member States, so care should be taken in this regard. The steps defined under Article 1(2)(g) are mandatory when undertaking an EIA. By comparison, undertaking the Screening and Scoping stages may not be required, depending on the nature of a Project or other circumstances: e.g. Screening is not necessary for Projects listed under Annex I to the Directive, and the Directive only foresees Scoping to be mandatory when it is requested by the Developer to the Competent Authority.


Screening
(as appropriate)
The Competent Authority makes a decision about whether EIA is required. At the end of this stage, a Screening Decision must be issued and made public.
Scoping
(as appropriate)
The Directive provides that Developers may request a Scoping Opinion from the Competent Authority which identifies the content and the extent of the assessment and specifies the information to be included in the EIA Report.
EIA Report
The Developer, or the expert(s) on his behalf, carries out the assessment. The outputs of the assessment are presented in the EIA Report which contains: information regarding the project, the Baseline scenario, the likely significant effect of the project, the proposed Alternatives, the features and Measures to mitigate adverse significant effects as well as a Non-Technical Summary and any additional information specified in Annex IV of the EIA Directive.
Information and Consultation
The Competent Authority makes the EIA Report available to authorities with environmental responsibilities, local and regional authorities and to other interested organisations and the public for review. They are given the opportunity to comment on the project and its environmental effects.
Decision Making and Development Consent
The Competent Authority examines the EIA report including the comments received during consultation and issues a Reasoned Conclusion on whether the project entails significant effects on the environment. This must be incorporated into the final Development Consent decision.
Information on Development Consent
The public is informed about the Development Consent decision.
Monitoring
(as appropriate)
During construction and operation phase of the project the Developer must monitor the significant adverse effects on the environment identified as well as measures taken to mitigate them.

GUIDANCE ON THE PREPARATION OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

HOW TO USE THIS GUIDANCE DOCUMENT

This Guidance Document is one in a series of three Guidance Documents on EIA that has been published by the European Commission. This Guidance Document is about the preparation of the EIA Report. The other two guidance documents are concerned with Screening and Scoping.

This Guidance Document has been designed to be used throughout the European Union (EU) and cannot, therefore, reflect all of the specific legal requirements and practices of EIA in the different EU Member States. As such, any existing national, regional or local guidance on EIAs should always be taken into consideration alongside this document. Furthermore, the Guidance Documents should always be read in conjunction with the Directive and with national or local EIA legislation. Interpretation of the Directive remains the prerogative of the Court of Justice of the European Union (CJEU) solely and, therefore, case-law from the CJEU should also be considered.

The guidance is designed for use by various participants in the EIA process.

- **Project Developers and EIA practitioners:** Project Developers are ultimately responsible for preparing a submitting to the Competent Authorities an EIA Report that meets the requirements of the Directive as transposed to national legislation. They frequently hire specialist experts or consultants ('EIA Practitioners') to support them in the preparation of the EIA Report. Part B Section 1 of this Guidance Document reviews the requirements of the EIA Report in detail, and provides practical tips. Part B sections 2 and 3 on quality of the report and the review procedure can also be useful for Developers and practitioners, who will need to follow the decision-making process and provide additional information if requested. Part C is a checklist that can be used during the process of preparing the report to check that it is in line with requirements.

- **Competent Authorities:** Competent Authorities will need to review the EIA Report and use the information for decision-making. They need to ensure that they have the necessary expertise to carry out this role, either through in-house or external resources. Where appropriate, the Competent Authority may request further information to be submitted by the Developer in order to reach a credible, reasoned conclusion about the impacts of the proposed Project or development on the environment. Part B sections 2 and 3 explain the requirements of the Directive in this regard and provide some practical information on how Competent Authorities can best carry out this role. Authorities can use the checklist in Part C when reviewing the report to ensure that it meets the requirements of the Directive.

- **Review Bodies:** In some EIA regimes, bodies have been set up to review environmental information submitted under EIA procedures and to advise Competent Authorities on the adequacy of the information before it is used for decision-making. As noted above research institutes and professional bodies may also be asked to undertake reviews by Competent Authorities.

- **Consultees – the public and stakeholders:** Some consultees who have significant interests in particular Projects may also undertake reviews of an EIA Report on their own behalf to ensure themselves that their interests have been adequately addressed and that it forms a sound basis for decision-making.

The guidance is comprised of three main sections:

- **Part A – Overview of legislative requirements for the EIA Report.** This section introduces the concept of the EIA Report and the relevant provisions of the EIA Directive that govern its preparation and use. It serves as a reference point for guidance users to check which sections of the legislation they need to refer to, and for understanding the main changes to the legislation in 2014.

- **Part B – Practical guidance on the preparation of the EIA Report.** The practical guidance is more hands-on and detailed, aimed at providing an in-depth understanding of the specific, current legislative requirements regarding the preparation and use of the EIA Report. It also provides information on how to carry out the required steps, based on practice from around the EU.

- **Part C – The EIA Report checklist.** The EIA Report checklist allows users to determine if they have fulfilled all the relevant information requirements for different parts of the EIA Report. It follows the structure of the practical guidance in Part B and is designed to be used by practitioners and Developers during the process of preparing the EIA Report and by Competent Authorities when reviewing the report for completeness and quality.

PART A – OVERVIEW OF THE LEGISLATIVE REQUIREMENTS FOR THE PREPARATION OF THE EIA REPORT

1 LEGISLATIVE REQUIREMENTS FOR THE PREPARATION OF THE EIA REPORT

As part of the Environmental Impact Assessment, the Developer must prepare and submit an Environmental Impact Assessment Report (hereafter referred to as the EIA Report). This is the first step of the EIA process, as mentioned in Article 1(2)(g), that defines the EIA process (see box 2 in the Preface). This Guidance Document is designed to support users to prepare and complete the EIA Report to the high standard envisioned by the Directive. This report must include the necessary information for the Competent Authority to reach the Reasoned Conclusion and should be of a sufficient quality to enable this judgement. Many of the EIA Directive's requirements and provisions aim to ensure that the EIA Report is of a sufficient quality to effectively serve this purpose.

Article 5 of the EIA Directive sets out what must be included in the EIA Report, and how to ensure that it is both of a sufficient high quality and complete. Extracts from the text of the Article can be found in the box below.

Box 3: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(1)

1. Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:

- (a) a description of the project comprising information on the site, design, size and other relevant
- features of the project;
- (b) a description of the likely significant effects of the project on the environment;
- (c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or
- reduce and, if possible, offset likely significant adverse effects on the environment;
- (d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;
- (e) a non-technical summary of the information referred to in points (a) to (d); and
- (f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

[…] the environmental impact assessment report […] include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. The developer shall, with a view to avoiding duplication of assessments, take into account the available results of other relevant assessments under Union or national legislation, in preparing the environmental impact assessment report.

Article 5(3)

3. In order to ensure the completeness and quality of the environmental impact assessment report:

- (a) the developer shall ensure that the environmental impact assessment report is prepared by competent experts;
- (b) the competent authority shall ensure that it has, or has access as necessary to, sufficient expertise to examine the environmental impact assessment report; and
- (c) where necessary, the competent authority shall seek supplementary information from the developer, in accordance with Annex IV, which is directly relevant to reaching the reasoned conclusion on the project's significant effects on the environment.

[…]

Article 5(1) sets out what Developers must include as a minimum in the EIA Report. Annex IV, referenced in Article 5(1)(f), expands on these requirements. In short, this includes the following:

- **A description of the Project:** this is an introduction to the Project, and includes a description of the location of the Project, the characteristics of the construction, and the operational phases of the Project, as well as estimates of the expected residues, emissions, and waste produced during the construction and operation phases (Article 5(1)(a) and Annex IV point 1);

- **Baseline scenario**: a description of the current state of the environment, and the likely evolution thereof without the implementation of the Project. This sets the stage for the subsequent EIA, and Member States shall ensure information for the Baseline scenario held by any authorities is available to the Developer (Annex IV.3);
- **Environmental factors affected:** a description of the environmental factors impacted by the Project, with specific emphasis being placed on climate change, biodiversity, natural resources, and accidents and disasters (Article 3, Annex IV points 4 and 8).
- **Effects on the environment**: this section addresses the concept of 'significant effects'[1] and the importance of cumulative effects (Article 5(1)(b), Annex IV point 5);
- **Assessment of Alternatives**: Alternatives to the Project must be described and compared, with an indication of the main reasons for the selection of the option chosen being provided (Article 5(1)(d) and Annex IV point 2);
- **Mitigation or Compensation Measures**, i.e. features or measures to avoid, prevent or reduce, and offset adverse effects should also be considered (Article 5(1)(c) and Annex IV.7);
- **Monitoring**: Monitoring Measures proposed should be included in the EIA Report, where significant adverse effects have been identified. This monitoring should be carried out during the construction and operation of a project(Annex IV.7);
- **Non-Technical Summary**, i.e. an easily accessible summary of the content of the EIA Report presented without technical jargon, hence understandable to anybody without a background in the environment or the Project (Article 5(1)(e) and Annex IV.9);
- **Quality of the EIA Report**: as well as presenting the Report well, complete with the Non-Technical Summary, experts preparing the EIA Report should be competent, and the Competent Authority reviewing the EIA Report should have access to sufficient expertise to examine it. Failure to include all necessary information can result in the Competent Authority requesting supplementary information (Article 5(3)).

Article 5 also refers to the scope and level of detail that are to be included in the EIA Report:
- This should match the scope and level of detail requested by the Competent Authority in the Scoping Opinion, where one exists, and should be sufficient to allow for a Reasoned Conclusion on the significant effects of the Project on the environment to be arrived at (Article 5(1) last paragraph).
- The Developer shall, with a view to avoiding duplication of assessments, take the available results of other relevant assessments under Union or national legislation, into account when preparing the Environmental Impact Assessment report (Article 5(4)).

The EIA Directive also contains provisions on how the EIA Report, once it has been drafted by the Developer, should be used in practice. The EIA Report serves as a tool to 1) communicate the results of the assessment of significant effects of a proposed Project on the environment; and 2) enable the Competent Authority to reach a Reasoned Conclusion regarding the impact of the proposed Project on the environment and whether and how the Project should be granted consent to be implemented. These provisions are laid out in Articles 6, 7, and 8 of the EIA Directive.

These and other requirements and provisions regarding the preparation of the EIA Report are covered in greater detail in Part B of this Guidance Document.

[1] More details on how to understand the concept of significant effects have been provided in the EIA Guidance document on Scoping.

2 LEGISLATIVE CHANGES FOR THE PREPARATION OF THE EIA REPORT

A key objective of the 2014 amendments to the EIA Directive has been to improve the quality of EIA, including with respect to the collection and assessment of environmental information and to the EIA Report's content. Briefly, the key changes include:

- The coverage of environmental issues required in the EIA Report is extended as new requirements related to climate change, biodiversity, risk of major accidents and/or disasters are introduced (Article 3.1 and Annex IV.4, IV.5 and IV.8 – this is described in detail in Part B section 1.4 below). Moreover, the EIA Report will have to cover transboundary effects, and the requirements for the assessment of cumulative effects are provided in further detail.
- The assessment of reasonable Alternatives is broadened: Alternatives studied by the Developer e.g. Alternatives to Project design, technologies, location, size, and scale, must be described in the EIA Report and an indication of the main reasons for the option chosen must be given (Article 5.1(d) and Annex IV, paragraph 2 – this is described in detail in Part B section 1.5 below);
- Provisions related to the completeness and quality of EIA Reports have been introduced (Article 5.3 – this is described in detail in Part B section 2 below);
- Monitoring requirements to be carried for Projects with significant adverse effects (Article 8a, paragraph 4 – this is described in detail in Part B section 1.6 below);
- The Competent Authority's Development Consent decision needs to be justified (Article 8a, paragraph 1) and must be issued within a reasonable period of time (Article 8a, paragraph 5 – this is described in detail in Part B section 3 below). This decision is furthermore required to include a number of elements, such as the Reasoned Conclusion and any environmental conditions attached to the decision such as Mitigation, Compensation, and Monitoring Measures (Article 8a).

These and other changes to the Directive, and how they should be implemented in practice, are presented in greater detail in Part B of this Guidance Document.

PART B - PRACTICAL GUIDANCE ON THE PREPARATION OF THE EIA REPORT

INTRODUCTION

This part of the Guidance Document gives practical guidance on the preparation of the EIA Report. It covers the following aspects:

- **The information requirements of the EIA Report.** This section reviews all of the information that Developers must include in the EIA Report. It is important to note that the content of the EIA Report may not include all of the information uncovered during the process of preparation of the EIA Report. The Directive requires that the EIA Report covers the Project and Baseline description, environmental factors, the assessment of effects on the environment, Project Alternatives, identification of Mitigation and Compensation Measures, as well as monitoring requirements;
- **The quality of the EIA Report.** This section covers the format and presentation of the EIA Report, as well as requirements concerning the expertise of those who prepare, examine and evaluate the EIA Report. It also addresses the Non-Technical Summary that must be included in the EIA Report;
- **Consultations and decision-making.** The EIA Directive has specific requirements regarding the use of the EIA Report, both as a tool to inform concerned stakeholders and the public, as well as to make decisions regarding Development Consent for Projects. This section reviews these procedures.

1 THE EIA REPORT'S CONTENT REQUIREMENTS

1.1 PROJECT DESCRIPTION

This section outlines what is required by the Developer when describing the Project, as required under Article 5 and Annex IV of the EIA Directive.

Box 4: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(1)
The information to be provided by the developer shall include at least [...] a description of the project comprising information on the site, design, size and other relevant features of the project.

Annex IV, point 1

- a) a description of the location of the project
- 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;
- 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 use, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;
- 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.

The Directive is relatively detailed in its requirements, and Developers should provide an overview of:

- the location, site, design, size, etc.;
- the physical characteristics of Project (including any demolition or land-use requirements);
- the characteristics of the operational phase of the Project;
- any residues, emissions, or waste expected during either the construction or the operational phase.

While the list in Annex IV outlining the specific characteristics to be included is only indicative, it has been developed through different iterations of the EIA Directive (see the box below In practice - 2014 amendments), and so should be thoroughly considered by practitioners. In any case, Developers should include any additional relevant characteristics of either the operational or construction phases.

Box 5: In practice – 2014 amendments to the Project description

The requirement to include a description of the Project in the EIA Report is not new, and earlier iterations of the Directive have also been quite prescriptive in this regard.

The key difference brought about by the 2014 amendments is the inclusion of relevant requisite demolition works during the construction and operational phases. In addition, an estimate of residues and emissions during the construction phase is to be included, where previously such estimates concerned only the operational phase. This change broadens the scope of the description of the Project, and aims to identify more potential environmental effects.

Other changes faced by Developers are relatively minor:

- Article 5 requires other relevant features of the Project to be included;
- A description of the location of the Project is now specifically required by Annex IV;
- The operational phase of the Project is not limited to production processes, as it was previously.

In addition, the lists of characteristics given in Annex IV, point 1 have been expanded upon:

- Any requisite demolition works must now be described, where relevant;
- Energy demand and energy used should be described in context of the operational phase;
- Natural resources must now be described in the context of the operational phase, with the Directive giving some examples;
- The list of expected residue and emission estimates is no longer exhaustive, and subsoil has been added as type of pollution;
- Estimates of quantities and types of waste produced must now be given.

1.2 BASELINE SCENARIO

This section introduces the Baseline scenario, which is typically the starting point of the assessment process. It covers the legal requirements concerning the Baseline scenario, including the 2014 amendments to the Directive, as well as some practical steps regarding data collection and points to consider when beginning to compile a Baseline scenario.

1.2.1 The notion of Baseline

Defining Baseline scenario: a description of the current status of the environment

The Baseline is a description of the current status of the environment in and around the area in which the Project will be located. It forms the foundation upon which the EIA will rest.

Specifically, developing a robust Baseline scenario for the EIA serves two key purposes:

- it provides a description of the status and trends of environmental factors against which significant effects can be compared and evaluated;
- it forms the basis on which ex-post monitoring can be used to measure change once the Project has been initiated. See the section on monitoring for more information.

Legal requirements of the Baseline scenario in the EIA Directive

In practice, an assessment of the existing and future environmental situation has, typically, always been the EIA procedure's starting point. However, after the 2014 revisions to the Directive, the description of the Baseline scenario, and likely future developments, is now specifically required as part of the Environmental Report. The exact references are shown in the box below.

Box 6: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(1) of the Directive states that:
'The information to be provided by the developer shall include at least…any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.'

Annex IV, point 3 outlines the information for the Environmental Impact Assessment Report, and includes:
'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.'

It is important to bear in mind that the EIA Directive requires the inclusion of both:

- a description of the current state of the environment in the EIA Report; and
- an outline of what is likely to happen to the environment should the Project not be implemented – the so-called 'do-nothing' scenario.

The state of the environment and the nature of impacts such as pollution rates or emission limits change over time, and this has to be accounted for in the Baseline assessment. In addition, the Baseline should consider Projects in the vicinity that exist and/or that have been approved (see Part B section 1.4.3 on Cumulative Effects). The Baseline should, therefore, be dynamic, going beyond a static assessment of the current situation. This is especially important for issues where there is considerable uncertainty, such as climate change, or for longer-term developments, such as large infrastructure Projects. Predicting uncertain elements can be challenging, particularly concerning the availability of information, as well as ensuring that the assessment is carried out with reasonable effort.

Tips on understanding how to carry out the Baseline assessment are provided in the following sections. The box below summarises the changes arising from the 2014 amendments to the EIA Directive.

Box 7: In practice – 2014 amendments to the Baseline

The specific requirement to include the Baseline scenario in the EIA Report is a new provision of the 2014 EIA Directive. However, in most cases, the changes will not have much of an effect on those carrying out the EIA:

- EIAs carried out prior to this requirement have established some kind of Baseline on which to assess the Project;
- The new provision formalises this step in the EIA process and aims to bring about some consistency between EIAs, between practice in Member States, and with the provisions on the SEA Directive's baseline (see the section below on sharing baseline assessment results).

The new provisions require consideration of:

- The 'do-nothing' scenario: the evolution of the Baseline, i.e. how the situation would be expected to develop over time, (rather than a static description of the state of the environment at the time of the assessment);
- The proportionality of the efforts to be expended, making sure resources are not spent collecting data if the cost outweighs the benefits

1.2.2 Carrying out the Baseline assessment

The Baseline forms the foundation against which the Alternatives and the Project itself are assessed. As such, the description of the current state of the environment must be sufficiently detailed and accurate to ensure that the effects, arising both during the development of the Project and in the future, can be adequately assessed. At the same time, the collection of data and the assessment of the Baseline need to be completed with reasonable effort. Developers and practitioners alike need to determine what aspects are important and can be readily understood and where qualified assumptions or estimates can be made to ensure the timely completion of the EIA.

Essentially, carrying out the Baseline assessment involves determining what is relevant and finding the data and information necessary to set the framework against which to assess impacts on the environment.

The collection of relevant data

The development of the Baseline can often comprise the bulk of the EIA process, and can occupy a significant proportion of the final EIA Report. However, care must be taken to ensure that data

collection efforts are focused on those aspects of the environment most likely to be significantly impacted, and that environmental data and scientific knowledge are reasonably available. The EIA Directive requires that only the 'relevant aspects' be investigated, and the over-collection of data can result in unnecessary costs. Detailed and thorough Scoping, undertaken at the outset of the Project, will go a long way to avoiding this issue (see the Guidance Document on Scoping). In some cases, communication with the Competent Authority about the scope of significant impacts, and what can be considered reasonable in terms of data availability, is also very helpful.

More generally, the scope of the Project will determine what level of detail is required, and how far the Baseline should extend. A small Project will likely only require that a small area be covered, but the nature of the Project may well mean that a high level of detail is required. A large Project may require a bigger area, but environmental effects may be small and it may be that only a broad level of detail is needed. Another issue concerns the timeline. Practitioners will need to decide how far into the future the Baseline will stretch. This will be decided on a case-by-case basis, but should at least be far enough in the future to show the development of the Project. However, a Baseline looking 100 years into the future will be less accurate than one working on a shorter timeframe. The use of existing plans and programmes, such as spatial plans and their SEAs, can also be a good way to determine the time frame, given that the scales may be similar and appropriate data are likely to be available.

Depending on the type of Project or specific environmental aspect, practitioners will need to gauge what is relevant when developing a Baseline. Keeping this in mind, the box below gives an overview of the types of data typically used in developing the Baseline assessment.

Box 8: Types of data to be considered for the Baseline scenario

Physical: topography, geology, soil types and quality, surface, ground and coastal water quality, pollution levels, meteorological conditions, climate trends, etc.

Biological: ecosystems (both terrestrial and aquatic), specific flora and fauna, habitats, protected areas (Natura 2000 sites), agricultural land quality, etc.

Socio-economic: demography, infrastructure facilities, economic activities (e.g. fisheries), recreational users of the area, etc.

Cultural: location and state of archaeological, historical, religious sites, etc.

Accessing data for the Baseline assessment

If Scoping has been carried out, it is possible that initial data has already been collected, which can be used for developing the Baseline. In such cases, data should be checked for relevance and accuracy, and if necessary, expanded upon. The Guidance Document on Scoping includes some guidelines on where initial data can be found, but this section is intended for those cases in which Scoping has not been carried out, or information identified during Scoping has proven to be insufficient.

Data should be collected and interpreted by the relevant experts (see the section on competence of expertise and quality control). If highly technical data are used, then data should be verified for the accuracy of interpretation and its relevance. Where no such experts are available in-house, external experts should be used. Experts may also be found at the local level, given that communities may have local knowledge which is highly relevant to understanding the Baseline conditions.

Data may be difficult to find; in some cases, proxy indicators can be used that can help to understand the environmental situation in other ways. For example, a lack of air quality monitoring data from an urban area could be resolved if there are data outlining trends in traffic flows/volumes over time, or trends in emissions from stationary sources. Assumptions about the environment can be generated from other available data and can be useful in determining the relevance of impacts.

Practitioners should be aware that data sources may differ from case to case, and the most high-tech or extensive collection method may not be the best one. In some cases, desk research may be more effective than field surveys, and Google Earth may be just as useful as satellite imagery that has been purchased.

In many Member States, data are collected either nationally or regionally, and include not only data from EIAs, but also from other environmental assessments and monitoring schemes. This practice is also encouraged by other EU level Guidance Documents (see the Annex to this Guidance Document on Other Relevant Guidance and Tools). These databases help to speed up the preparation of environmental assessments. Frequently updated databases will also facilitate transboundary consultations and the linkages between strategic and Project level environmental assessments. Practitioners should always first check what institutions are already in place, and what data are already available, before starting data collection for the Baseline scenario. In addition, Article 5(4) of the EIA Directive requires Member States to, if necessary, ensure that any authorities holding relevant information make this information available to the Developer. This means that the Developer should be able to easily obtain relevant information from the different relevant authorities and to obtain guidance to that effect from the Competent Authority.

Some typical sources of information used for collecting Baseline data are listed below.

- National/regional databases of previous EIAs;
- Data collected under other EU legislation (especially the SEA Directive and the INSPIRE Directive);
- EU level and other international databases (see the box below);
- Local level/community experts; and
- Primary research carried out by competent experts.

Box 9: Some examples of supra-national level environmental databases

General datasets

- European Commission – Eurostat database;
- European Environment Agency (including national emissions, water, land cover, etc.);
- European Environment Information and Observation Network (EIONET);
- Copernicus (previously Global Monitoring for Environment and Security);
- Infrastructure for Spatial Information in the European Community (INSPIRE);
- United Nations Environmental Data Explorer.

Biodiversity and climate change datasets

- Biodiversity Information System for Europe (BISE);
- Global Biodiversity Information Facility (GBIF);
- Natura 2000 Network Viewer;
- Reporting under Habitats Directive and Birds Directive;
- Common Database on Nationally Designated Areas (CDDA) managed by the European Environment Agency;
- Ecosystem assessments (MAES)
- Group on Earth Observations Biodiversity Observation Network (GEO BON);
- EuMon (species and habitats of Community interest);
- IPCC Data Distribution Centre.

Water & Marine datasets

- Water Information System for Europe (WISE);
- European Marine Observation and Data Network (EMODNET);
- Environmental Marine Information System (EMIS) ;
- European Atlas of the Seas.

Chemicals and industrial datasets

- Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);

- Major Accident Reporting System (MARS);
- Community Documentation Centre on Industrial Risk (CDCIR);
- European Pollutant Release and Transfer Register (ePRTR).

An example of data sharing platforms is provided in the box below.

Box 10: An example of data sharing

In Italy, several environmental and territorial databases are available for public access via a website dedicated to the SEA/EIA procedures. The ministry of the environment provides a catalogue of environmental data at the national and regional levels which is updated regularly. Sources include databases, web resources, documents, spatial datasets (webGIS service, Google Earth, WMS and WFS). Specific criteria are used to ensure the reliability and quality in accordance with national and EU provisions.

Information from the Italian's government website Ministero dell'Ambiente.

Sharing Baseline assessment results

Sharing results from other types of environmental assessment procedures or similar Projects' EIAs is also important for the Baseline's assessment. For example, if one year is spent collecting Baseline data for a windfarm, a similar windfarm Project in a similar location would be able to use much of the data already collected for the first Project.

The SEA, WFD, IED, and Habitats Directive (see the Annex to this Guidance Document on Links with Other EU Instruments) all require that some form of baseline be developed: for instance, under the Habitats Directive the baseline would be the conservation objectives of the Natura 2000 site. But very few Member States have provisions on how this is to be done. In any case, practitioners should check the Baseline scenario, as well as environmental reports and other relevant assessments of the status of the environment carried out under the SEA and Habitats Directives, the WFD, and the IED if they are carried out in the vicinity of the Project covered by the EIA. Care should be taken to ensure that the data are still up to date and relevant, keeping in mind the differences in scope of the different instruments.

The similarities between the SEA and EIA provisions also mean that SEA guidance documents and reports prepared in this context may be used to inspire an EIA. Below is an example from the 2001 SEA Guidance Document issued by the European Commission (see the Annex to this Guidance Document on Other Relevant Guidance and Tools). It should be borne in mind that similar documents may exist at the national level, and would include information which may differ from this guidance and provide additional information.

Box 11: SEA Guidance Document: a comparison with EIA Baseline provisions

The SEA baseline provisions were first introduced in 2001, and guidance and lessons learnt have been developed since then. The SEA Guidance can prove useful to applying the EIA provisions to the Baseline. Below are the phrases that appear in both Directives in **bold**, and how they are covered in the SEA Guidance Document.

PART A **'the relevant aspects**' refer to environmental aspects that are relevant to the likely significant environmental effects of the plan or programme. These aspects could be either positive or negative. This concept should be considered in the same way during both assessments, but the aspects themselves may differ between EIA and SEA. An SEA, for example, may cover a large area of land and, therefore, may have much broader aspects that may be affected than an EIA, which may be assessed at a much smaller level of detail.

PART B '**current state of the environment**' requires that the information be up-to-date. Both the SEA and EIA will benefit from the data being up-to-date (see the section on decision-making).

PART C '**likely evolution of the relevant aspects without the implementation** of the plan or programme gives a foundation upon which the plan or programme (if it does go ahead) can be assessed. For an SEA, the description of the evolution should cover roughly the same time horizon as that envisaged for the

implementation of the plan or programme. The same timeframe could be used for an EIA falling under such an SEA.

Information collected under the other environmental assessments may provide a starting point for an EIA, given that Developers must provide authorities with data on various issues regularly. EU-level initiatives such as INSPIRE provide standardised data collection, making comparison between different environmental assessments easier. The IED, for example, requires that Developers provide annual information on their emissions with regards to different mediums, volume, and amount of materials on-site (stocked, disposed of, etc.). Such information, collected solely for the purposes of the IED, may not be directly transferrable to the EIA Report, given that the scope and purpose of these collections may differ from EIA requirements. However, previously reported information may prove invaluable for establishing a Baseline and mapping trends over time.

1.2.3 Baseline: In a nutshell

- The Baseline assessment is the starting point of an EIA. The Baseline scenario and its assessment provide a description of the affected environment as it is currently, and as it could be expected to develop if the Project were not to proceed;
- A Baseline has typically always been included in EIAs, but the 2014 amendments to the EIA Directive specify that a Baseline must be included in the EIA Report and that it must include the current environmental situation as well as expected future developments ('do-nothing' scenario);
- The Baseline assessment needs to be detailed and comprehensive enough to allow for an understanding of the extent of environmental impacts, but must be conducted within a reasonable time and with a reasonable amount of effort on the part of the Developer. Scoping helps to understand this in advance;
- The collection of relevant data is critical to a robust assessment of the Baseline. Data should be identified and assessed by qualified experts;
- Efficiencies in data collection from existing databases, free services, and other relevant environmental assessments should always be investigated.

1.3 ENVIRONMENTAL FACTORS

This section reviews the scope of the environmental factors covered by the Directive, with a focus on those factors that have been expanded in the 2014 amendments to the Directive.

1.3.1 Scope of environmental factors covered by the Directive

As shown in the box below, Article 3 sets out those environmental factors that EIAs have to consider relevant for particular Projects. These factors are described further in Annex IV, point 4 to the Directive, which provides details about the information required for the EIA Report.

Box 12: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 3

1. The environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

- (a) population and human health[2];

[2] Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air

- (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- (c) land, soil, water, air and climate;
- (d) material assets, cultural heritage and the landscape;
- (e) the interaction between the factors referred to in points (a) to (d).

2. The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned.

In particular, the requirements have been expanded to cover some of these factors in greater detail, in response to the evolution of the understanding of the interaction between Projects and the environment, and other policy actions taken in light of these developments. These elements are:

- Climate change – both mitigation and adaptation;
- Risks of major accidents and disasters;
- Biodiversity;
- Use of natural resources.

Developers are, therefore, expressly required to assess a broader scope of impacts with respect to these issues wherever relevant. These issues are each treated specifically in the following sections.

1.3.2 Impacts related to Climate change

Legislative requirements and key considerations

Box 13: Directive 2011/92/EU as amended by Directive 2014/52/EU

Annex IV point 4

A description of the factors specified in Article 3(1) likely to be significantly affected by the project: … climate (for example greenhouse gas emissions, impacts relevant to adaptation) …

Annex IV point 5(f)

A description of the likely significant effects of the project on the environment resulting from, inter alia:

- (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; …

Annex IV to the EIA Directive includes direct reference to climate and climate change in two provisions. The emphasis is placed on two distinct aspects of the climate change issue:

- **Climate change mitigation**: this considers the impact the Project will have on climate change, through greenhouse gas emissions primarily;
- **Climate change adaptation:** this considers the vulnerability of the Project to future changes in the climate, and its capacity to adapt to the impacts of climate change, which may be uncertain.

In 2013, the European Commission issued a guidance document on integrating climate change and biodiversity into Environmental Impact Assessment (see the Annex to this Guidance Document on Other Relevant Guidance). This guidance document provides information about the legal aspects of understanding these issues in EIAs, the benefits and challenges of integrating them into assessment

pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population.

procedures, and detailed methodological approaches to carrying out assessments on these issues. It should be read alongside this section of the EIA guidance document.

Climate change mitigation: Project impacts on climate change

Most Projects will have an impact on greenhouse gas emissions, compared to the Baseline (see the section on Baseline), through their construction and operation and through indirect activities that occur because of the Project. The EIA should include an assessment of the direct and indirect greenhouse gas emissions of the Project, where these impacts have been deemed significant:

- direct greenhouse gas emissions generated through the Project's construction and the operation of the Project over its lifetime (e.g. from on-site combustion of fossil fuels or energy use)
- greenhouse gas emissions generated or avoided as a result of other activities encouraged by the Project (indirect impacts) e.g.
  - Transport infrastructure: increased or avoided carbon emissions associated with energy use for the operation of the Project[3];
  - Commercial development: carbon emissions due to consumer trips to the commercial zone where the Project is located.

The assessment should take relevant greenhouse gas reduction targets at the national, regional, and local levels into account, where available. The EIA may also assess the extent to which Projects contribute to these targets through reductions, as well as identify opportunities to reduce emissions through alternative measures.

Climate change adaptation: the vulnerability of the Project to climate change

The Directive also requires that Environmental Impact Assessments consider the impacts that climate change may have on the Project itself — and the extent to which the Project will be able to adapt to possible changes in the climate over the course of its lifetime. This aspect of the issue of climate change can be particularly challenging as 1) it requires those carrying out the assessment to consider the impacts of the environment (the climate in this case) on the Project, rather than vice-versa; and 2) it often involves a considerable degree of uncertainty, given that the actual climate change impacts, especially at local levels, are challenging to predict. To this end, the EIA analysis should take trends and risk assessment into consideration.

In April 2013, the European Commission adopted the EU Strategy on adaptation to climate change (COM(2013) 216 final), which sets out a framework to prepare the EU for climate impacts now and in the future. One of its main objectives is related to the promotion of better-informed decision-making through initiatives such as the European Climate Adaptation Platform (CLIMATE-ADAPT)[4] which was designed, as a web-based platform, to support policy-makers at the EU, national, regional, and local levels in the development of climate change adaptation measures and policies. The Strategy comprises a set of documents that are useful to a wide range of stakeholders. In relation to the adaptation measures considered within EIAs, the Commission Staff working document entitled Adapting infrastructure to climate change (SWD(2013) 137 final), as well as Guidelines for Project Managers: Making vulnerable investments climate resilient (DG Climate Action, Non-paper) are of particular importance.

[3] For example, such a requirement is already included in the French legislation concerning EIAs.

[4] [redacted]

- Integration of climate change mitigation considerations into EIAs

The effective assessment of impacts on climate change mitigation within EIAs is heavily dependent upon the methodology employed, and a number of standardised methodologies for calculating greenhouse gas emissions already exist. The extent to which they will be applicable to the specific case in question will be important, as well as issues relating to data collection. Calculating direct impacts will be more straightforward than indirect impacts – and assessments will have to rely on estimates in some cases.

The European Commission Guidance Document on integrating climate change and biodiversity into EIA identifies key European sources of data, including data repositories and online digital datasets thought to be useful when integrating climate change in EIA. This guidance document also provides links to carbon calculators and to other methodologies, including to the methodology for calculating absolute and relative GHG emissions piloted by the European Investment Bank (EIB) (EIB, Methodologies for the Assessment of Project GHG Emissions and Emission Variations) – see the Annex to this Guidance Document on Other Relevant Guidance and Tools.

On the global level, in 2011 the United Nations Framework Convention on Climate Change issued a paper on 'Assessing climate change impacts and vulnerability, making informed adaptation decisions' (UNFCCC, Highlights of the contribution of the Nairobi work programme, Assessing climate change impacts and vulnerability, making informed adaptation decisions) which contains sections on, inter alia, the development and dissemination of methods and tools, the provision of data and information, and the assessments of impacts and vulnerability at different scales and in different sectors.

The Life Cycle Assessment (LCA) can be used to consider a Project's overall direct and indirect greenhouse gas emissions balance.

- Integration of climate change adaptation considerations into EIAs

As discussed above, the integration of climate change adaptation considerations into EIAs is challenging; it requires a shift in thinking about assessments and taking possible long-term risks and uncertainty into account. Recent improvements in the information base for understanding climate change impacts and risks for a variety of sectors and locations has made this challenge less daunting, however, and the information base and acquisition of experience on this topic is growing rapidly. The European Climate Adaptation Platform, known as Climate-ADAPT, is a good place to start to find support tools and links to the latest adaptation knowledge, including detailed studies on vulnerabilities and risks.

The European Commission Guidance Document on integrating climate change and biodiversity into EIA is another important source of information and ideas on how to carry out the assessment (see the Annex to this Guidance Document on Other Relevant Guidance and Tools). It provides examples of key questions to ask to identify climate change adaptation concerns; these consider major impacts such as heat waves, droughts, extreme rainfall, storms and winds, landslides, rising sea levels, and others. The guidance document also explains how to take account of trends, drivers of change, and risk management approaches in EIAs. It suggests approaches to building adaptive capacity into Projects through alternative measures, such as changes in the use of materials or construction designs that will be more resilient to expected risks. It also shows how EIAs can facilitate adaptive capacity and management in Projects by clearly acknowledging their assumptions and uncertainty in climate impacts and by proposing practical monitoring arrangements to verify the validity of predictions and responses over time.

1.3.3 Impacts related to risks of major accidents and disasters

Legislative requirements and key considerations on accidents and disaster risks

Box 14: Directive 2011/92/EU as amended by Directive 2014/52/EU

Annex IV point 5(d)

A description of the likely significant effects of the project on the environment resulting from, inter alia:

- (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters) and

Annex IV point 8

(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. [...] Where appropriate, this description should include [...] details of the preparedness for and proposed response to such emergencies.

Annex IV contains direct reference to accidents and disaster risks in two provisions. The Directive uses the terms 'major' accidents and 'disasters', which are tied to the notion of significant effects (see the section below on assessing effects on the environment): the focus of these provisions is on significant risk and/or a risk that could cause significant environmental effects.

Two key considerations emerge therefrom, namely:

- The Project's potential to cause accidents and/or disasters

In this case, the Directive explicitly refers to considerations for human health, cultural heritage, and the environment.

- The vulnerability of the Project to potential disaster/accident

In this case, the requirement covers both natural (e.g. earthquakes) and man-made disasters (e.g. technological hazards) that could significantly impede the Project's activities and objectives and which might have adverse effects. In its 2009 Prevention Communication, the Commission has committed itself to mainstream disaster prevention concerns in the EU legislation and in the EIA Directive in particular. The need to build 'resilience to natural and man-made disasters' and to invest in risk prevention is envisaged in several EU strategies and proposals[5]. Some relevant information on these topics is readily available and can be obtained through risk assessments pursuant to other EU legislation, such as the Seveso III Directive on the control of major-accident hazards involving dangerous substances[6] or the Directive establishing a Community framework for the nuclear safety of nuclear installations[7]. Other relevant assessments, carried out pursuant to national legislation, may also be used for this purpose provided that the requirements of these Directives have been met.

An example from Ireland, presented in the box below, illustrates the necessity to consider the adverse impacts of natural disaster/risks when constructing a Project.

[5] E.g. the EU Internal Security Strategy COM(2010)673, the Commission's proposal for the Cohesion fund for 2014-2020 COM(2011)612, the Commission's Communication on the prevention of natural and man-made disasters COM(2009)82.

[6] Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.

[7] Council Directive 2009/71/EURATOM of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations.

Box 15: Assessment of natural disasters risk in an EIA in Ireland – CJEU, C-215/06, *Commission v Ireland*

In 2008, the ECJ ruled that Ireland had failed to fulfil its obligations under several Articles of the EIA Directive. This case concerned the construction of the largest terrestrial wind-energy development ever planned in Ireland and one of the largest in Europe.

When initial phases for development consent were granted in 1998, wind farms were not included in either Annex I or II to the Directive and, therefore, were not subject to an EIA. However, wind farm construction required a number of works, including the extraction of peat and of minerals other than metalliferous and energy-producing minerals, as well as road construction, which were listed in Annex II to the EIA Directive requiring Screening to be carried out. The competent authority in Ireland assessed that no EIA for these supplementary works was required, given that their impact would not significantly impact the environment.

Subsequently, a landslide occurred in October 2003, which the Commission claimed lead to a large-scale ecological disaster, when the mass of peat which was dislodged from an area under development for the wind farm polluted the Owendalulleegh River, causing both the death of about 50,000 fish and lasting damage to the fish spawning beds. Ireland contended that the landslide was caused by the construction methods used and that there was no question of difficulties which could have been anticipated by an EIA, even one in conformity with the Community requirements.

The ECJ stated that the intended Projects of peat and mineral extraction and road construction were not insignificant and that the EIA should have been carried out.

Given that it was not undertaken, the question of soil stability, even though it is fundamental when excavation is intended, was not assessed.

Integration of disaster/accident risk considerations into EIAs

Box 16: Key considerations on disaster/accident risk

Including disaster/accident risk assessment in EIAs should address issues such as:

- What can go wrong with a Project?
- What adverse consequences might occur to human health and to the environment?
- What is the range of magnitude of adverse consequences?
- How likely are these consequences?
- What is the Project's state of preparedness in case of an accident/disaster?
- Is there a plan for an emergency situation?

- Assessment of the Project's vulnerability to disaster risks

An integrated assessment of vulnerability to disaster risks and hazards aims to assess whether the Project is indeed vulnerable to such events and, if so, to provide recommendations to avoid/minimise those risks. Where relevant, a multi-risk approach should be followed to cover the climate-related hazards, discussed previously in the section concerning climate change (see section above on climate change). The study on the EIA and risk assessment undertaken as part of the Sixth Framework Programme (the Sixth Framework Programme covers EU activities in the field of research, technological development and demonstration) contains useful information concerning risk assessment and risk management, lists existing guidelines on the subject and the results of the EIA's application in terms of risk assessment in several Member States (see the Annex to this Guidance Document on Other Relevant Guidance and Tools). It examines the ways in which, and the extent to which, extraordinary hazards and risks are dealt with in the EIA in the EU Member States, both within the regulatory framework and in EIA practice. The study also lists qualitative, semi-quantitative, and quantitative methods by which to assess risk of accident/disasters.

- Tools: prevention, monitoring and early warning

After the major natural and man-made risks have been identified and assessed, measures to control and manage their significant impacts should then be taken, e.g. to ensure compliance with existing minimum prevention standards, safety requirements, building codes, improved land use planning, etc. These could be integrated into a coherent risk management plan that also includes sufficient preparedness and emergency planning measures to ensure an effective response to disasters or to the risks of accidents (cf. 2012 IA Study, page 140).

1.3.4 Impacts related to biodiversity

Legislative requirements and key considerations on biodiversity

Box 17: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 3

The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

- (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

Annex IV point 4

A description of the factors specified in Article 3(1) likely to be significantly affected by the project:

... biodiversity (for example fauna and flora) ...

Annex IV (4) refers to biodiversity and includes, inter alia, fauna and flora. The reference to the assessment of impacts on 'biodiversity' was added to the Directive in the 2014 amendments, which previously referred only to 'fauna and flora'. This is important: fauna and flora taken individually refer to animal and plant life in a particular zone or time, it involves a somewhat individual perspective, while biodiversity refers to the interactions and variety of, and variability within, species, between species, and between ecosystems; this is, therefore, a much broader concept than simply looking at the impacts on fauna and flora individually. This change is in line with some of the actions of the 2006 EU Biodiversity Action Plan requiring that 'all EIAs should take full account of biodiversity concerns' (Halting the loss of biodiversity by 2010 - and beyond - Sustaining ecosystem services for human well–being, SEC(2006)621). This is particularly important, given that the EU has missed its 2010 target of halting the loss of biodiversity and the new 2011 EU Biodiversity Strategy reiterates that this target is to be achieved by 2020 (Our life insurance, our natural capital: an EU biodiversity strategy to 2020, COM (2011) 244 final).

In addition, Article 3(1) also spells out the need to assess both the direct and indirect significant effects of the Project on, inter alia, biodiversity, with particular attention being paid to species and habitats protected under the Habitats Directive and the Birds Directive. The reference to these Directives was also added in the 2014 amendments.

Integration of biodiversity considerations into the EIAs

A number of key issues need to be addressed by Developers in relation to biodiversity concerns. These include, for instance, the degradation of ecosystem services[8], the loss and degradation of habitats, the loss of species diversity, and the loss of genetic diversity.

[8] Ecosystem services are understood as the ecosystem's capacity for (i) provisioning, (ii) regulating, (iii) supporting, and (iv) providing cultural benefits. This means, for instance, that if pollution to a water stream is taking place, then this could result in degradation of the stream's capacity to (i) provide clean water, ensuring thereby that fish and aquatic plants are (ii) healthy and (iii) thriving, leading to (iv) the depreciation of the site's value for local fishermen.

The European Commission issued guidance concerning the integration of biodiversity into the EIA in 2013 (see the Annex to this Guidance Document on Other Relevant Guidance and Tools). This guidance document lists key concerns and includes examples of key questions that should be asked, in order to assess impacts on biodiversity effectively. There are also several other guidance documents that are useful for the integration of biodiversity concerns into the EIAs. Some of these documents are listed in the box below, please also refer to the Annex to this Guidance Document on Other Relevant Guidance and Tools.

Box 18: Guidelines on biodiversity integration in the EIA

- Commission, Assessment of plans and Projects significantly affecting Natura 2000 sites, Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- Netherlands Commission for Environmental Assessment & CBD-Ramsar-CMS, Voluntary Guidelines on biodiversity-inclusive Environmental Impact Assessment.
- Slootweg, Roel; Kolhoff, Arend, Generic approach to integrate biodiversity considerations in screening and Scoping for EIA.
- Chartered Institute of Ecology and Environmental Management, Guidelines for ecological impact assessment in the UK and Ireland, Terrestrial, Freshwater, and Coastal, January 2016.

In cases in which Projects are likely to have significant effects on a site protected under the Habitats and Birds Directives, the assessment of effects of Projects on biodiversity will be carried out as part of an Appropriate Assessment according to Article 6(3) of the Habitats Directive. The 2014 amendments to the EIA Directive require that this assessment be carried out in coordination with the EIA, according to procedures specified in the European Commission guidance on streamlining environmental assessments under Article 2(3) of the EIA Directive (see the Annex to this Guidance Document on Other Relevant Guidance and Tools). It is important to bear in mind that EIAs must assess impacts on biodiversity even in cases in which certain Projects do not impact upon a Natura 2000 site.

Integration of marine biodiversity into the EIAs

Following the adoption of the Marine Strategy Framework Directive (MSFD), in 2008[9], impacts on the marine environment are to be further considered in EIAs for Projects within marine areas. These could include Annex I Projects, such as trading ports, or Annex II Projects such as extracting minerals by dredging, wind farms, shipyards, coastal work to combat erosion, for example, moles and jetties.

Contrary to biodiversity on land, which has been covered by EU law since the 1980s, a thorough analysis of biodiversity in the sea only became required with the adoption of the MSFD. The issue of data gathering and problems with the lack of data may, therefore, be greater than it is for other Projects. However, a number of tools, databases, and information systems are now available and aim to preserve the natural resources and biodiversity, while keeping the marine economic sectors viable.

These include:

- Several tools developed to support the assessment of the marine environment under the MSFD. Member States are required under Article 8 of the MSFD to carry out an assessment of their marine waters every 6 years. This can be considered as a form of baseline. In addition, according to Article 11 of the MSFD, Member States must establish a monitoring programme, reviewed every 6 years, which should also gather data for the purposes of achieving good environmental status;

[9] Directive 2008/56/EC of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

- There are also regional sea conventions that have relevant information concerning data on marine biodiversity and sea such as the Helcom[10] in the Baltic region, OSPAR for the North East Atlantic, the Barcelona Convention for the Mediterranean and the Bucharest Convention for the Black Sea;
- The Global Marine Information System has been developed by the JRC to provide the stakeholders with an appropriate set of bio-physical information (GIS functionalities) that is important in conducting water quality assessments and resource monitoring in the coastal and marine waters;
- The Global Marine Environment Protection (GMEP) Initiative is a best practices-sharing mechanism that was prompted by several high profile offshore drilling accidents. GMEP was conceived by the G20 Leaders at the Toronto Summit in 2010 to protect the marine environment.

See the Annex to this Guidance Document on Other Relevant Guidance and Tools for full references.

In 2014, the Commission also adopted a Directive establishing a framework for maritime spatial planning[11] that requires Member States to establish so-called maritime spatial plans with the overall objective of achieving the sustainable use of marine resources. This Directive requires Member States to establish the maritime spatial plans as soon as possible, and at the latest by 31 March 2021. Several types of Projects within the maritime spatial plans, such as those concerning renewable energy development, oil and gas exploration and exploitation, maritime shipping and fishing activities, ecosystem and biodiversity conservation are all subject to the EIA and the Developer will have to ensure that they are in line with their respective maritime spatial plan objectives.

Several guidance documents have been written in relation to the assessment of environmental impacts of Projects in the marine environment, at the EU as well as national levels. Some are listed in the box below and are part of the list provided under the Annex to this Guidance Document on Other Relevant Guidance and Tools.

Box 19: Relevant Guidance documents

EU Guidance Documents

- Commission guidance on wind energy development in accordance with the Natura 2000

Other Guidance Documents

- OSPAR, Assessment of the Environmental Impact of Offshore Wind-farms
- RPS, Environmental impact assessment practical guidelines toolkit for marine fish farming
- EMEC, Environmental impact assessment (EIA) guidance for developers at the European Marine Energy Centre

A good practice example from Italy and Malta, involving the assessment of impacts on marine biodiversity as part of the EIA, is described in the box below.

Box 20: Minimising cable impact on marine ecosystem by Terna

Terna, the Italian electricity grid operator, has developed an innovative methodology for the installation of marine cables that minimises the environmental impact of submarine grid interconnections between Malta and Sicily and protects meadows of the rare sea grass 'Posidonia oceanica'.

The corridor foreseen for this cable crossed an area that is home to 'Posidonia oceanica', a seagrass that is declining (according to the RedList) and provides a habitat for many species. In order to protect the 'Posidonia oceanica' as well as other seabed species from harm, Terna refrained from the drilling technique most commonly used for marine cable installation.

[10] [redacted]

[11] Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning.

This technique would have involved the use of bentonite to lubricate and consolidate the sand around the drilling head, which could have potentially suffocated the 'Posidonia oceanica' due to the bentonite debris. The innovative solution applied used Xanthan gum, a polysaccharide sometimes employed as a food additive that can easily be biodegraded.

Good Practice of the Year 2016 award, [redacted]

1.3.5 Impacts related to the use of natural resources (depletion risks, resource use considerations)

Legislative requirements and key consideration on use of natural resources

Box 21: Directive 2011/92/EU as amended by Directive 2014/52/EU

Annex IV point 1(c)

Description of the project, including in particular:

- (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;

Annex IV point 5(b)

A description of the likely significant effects of the project on the environment resulting from, inter alia:

- (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;

Annex IV (1) and (5) requires the Developer to assess the use of natural resources and the impacts of the Project resulting from their use/depletion. In this context, the Directive requires the assessment to consider the sustainability of resources as far as possible, in particular land, soil, water, and biodiversity, as well as energy. The requirement for the assessment of a Project's impacts on the availability of natural resources is additional to the requirement to assess the impact on the resources — and a slightly different emphasis needs to be taken into account by Developers and practitioners. This emphasis reflects a shift in environmental policy focus from one of protecting natural resources — through assessing and mitigating impacts — to one of preserving the availability of natural resources for human activity. In this sense, assessments should also focus on the efficiency of resource use; can Projects do more with less in terms of energy use, water intake, land and soil use, etc.?

The integration of the use of natural resources into EIAs

The European Commission's Thematic Strategy on the Sustainable Use of Natural Resources (COM(2005) 670) has defined three types of indicators needed to measure resource efficiency:

- Resource use indicators

Indicators of resource use should inform not only on the quantities of resources extracted, but also their quality, abundance (e.g. renewable, non-renewable, exhaustible, non-exhaustible), availability and location.

- Environmental impact indicators

Resource use also impacts the environment and human health through a sequence of changes in the state of the natural environment. Life Cycle Assessment (LCA) methodology provides a framework for describing environmental impacts. An LCA quantifies all of the physical exchanges with the environment, be they inputs (materials, water, land use, and energy) or outputs (waste and emissions to air, water, and soil). These inputs and outputs are then assessed in relation to specific environmental impact potentials (e.g. climate change, eutrophication, ecotoxicity). These so-called midpoint impacts can then, once more, be related to endpoint impacts such as human health, the natural environment,

and natural resources (for full references to the European Commission, Assessment of resource efficiency indicators and targets see the Annex to this Guidance Document on Other Relevant Guidance and Tools).

- Socio-economic indicators

Indicators of socio-economic benefits are not just limited to the market value of resources, but also to those aspects of resource use related to well-being and to quality of life that are not measured within the economy.

Methodologies for the assessment of resource use and efficiency are fairly recent, and only a few documents providing details thereon are currently available. These are provided in the box below and are part of the list provided under the Annex to this Guidance Document on Other Relevant Guidance and Tools.

Box 22: Methodologies on the assessment of natural resources use

- European Commission. 2012. Life cycle indicators framework: development of life cycle based macro-level monitoring indicators for resources, products and waste for the EU-27. European Commission, Joint Research Centre, Institute for Environment and Sustainability
- Assessment of resource efficiency indicators and targets, Final report, European Commission, DG Environment, 19 June 2012
- Land and Ecosystem Accounting (LEAC), European Topic Centre Terrestrial Environment, LEAC methodological guide book, July 2005

1.3.6 Environmental factors: In a nutshell

- Article 3 of the EIA Directive provides the scope of environmental factors that should be assessed by the EIA. This list of environmental issues was broadened by the 2014 amendments to the Directive, by adding the following factors in particular: climate change – both mitigation and adaptation; risks of major accidents and disasters; biodiversity; and the use of natural resources;
- These factors sometimes require EIA practitioners to pay greater attention to issues of risk, uncertainty and resource use related to a Project than they may have previously – in some cases new assessment methods or techniques will be necessary;
- In addition to the guidance provided in this section, reference is made to a large number of initiatives, mostly at the EU-level, to further assist practitioners in their assessment. Practitioners are encouraged to make use of these tools, many of which are listed under the Annex to this Guidance Document on Other Relevant Guidance and Tools.

1.4 ASSESSING EFFECTS ON THE ENVIRONMENT

Article 3 requires that the EIA Report identify, describe, and assess significant effects. Section 1.3 above concerns the identification of the environmental factors likely to be impacted upon by the Project. This section focuses on the phrase 'significant effects'; that is, identifying which effects are to be considered and which are determined to have only a negligible effect on the environment. The concept of cumulative effects has also been included in this section, given that effects considered to be insignificant in isolation may have a significant impact on the environment when they interact with other effects.

1.4.1 Legal framework of significant effects

The EIA Directive stipulates that 'significant' effects must be considered when it comes to assessing the effects (or impacts) on the environment. The concept of significance considers whether or not a Project's impact could be determined to be unacceptable in its environmental and social contexts. The assessment of significance relies on informed, expert judgement about what is important, desirable or

acceptable with regards to changes triggered by the Project in question.

This limits the assessment to those impacts that are likely to have a significant or important enough impact on the environment to merit the costs of assessment, review, and decision-making. While the concept of significant effects is referred to several times throughout the EIA Directive (see the box below), no clear definition is provided, and significance has to be assessed in light of the Project's specific circumstances. If Scoping has been carried out, the significance of effects may have been either indicated or, in some cases, already determined at the Scoping stage and, therefore, practitioners should refer to the Guidance Document on Scoping.

Box 23: Directive 2011/92/EU as amended by Directive 2014/52/EU

The phrase 'significant effect' is used throughout the Directive, in various contexts. The following extracts highlight only those relevant for understanding the phrase in the context of the EIA Report. References to cumulative effects have also been highlighted.

Article 1(1) of the Directive states that:
'This Directive shall apply to the assessment of the environmental effects of those public and private projects which are likely to have **significant effects** on the environment.'

Article 3(1) of the Directive states that:
'The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the **direct and indirect significant effects** of a project on the following factors ….'

Article 5(1) of the Directive states that:
'where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:
(…)
(b) a description of the **likely significant effects** of the project on the environment
(c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset **likely significant adverse effects** on the environment;
(…)'

Annex IV point 5 to the Directive states that:
5. A description of the **likely significant effects** of the project on the environmental resulting from, inter alia:
(…)
(e) a **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;
(…)
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…'

As seen in the box above, the concept of significance is a core concept for the EIA Directive; it is one that, in essence, guides the EIA process. In addition to the present section, further information on this concept can be gathered from the Guidance Documents on Screening and Scoping.

1.4.2 Significance in the context of the preparation of the EIA Report

Those preparing the EIA Report may have to determine the significance of the effects of the Project upon the environment. This could be because Scoping was not undertaken earlier in the EIA process, or additional effects and/or data surface during the evolution of the EIA Report. In these instances, the assessment of significance should be based on clear and unambiguous criteria:

- Significance criteria take both the characteristics of an impact and the values associated with the environmental issues affected into account;
- Significance is always context-specific and tailored criteria should, thus, be developed for each Project and its settings.

Furthermore, the EIA Directive requires that significant effects be described in the EIA Report in an *appropriate manner* (Article 3 of the Directive), so that it ultimately allows for decision-making. For this reason, significance determinations must be substantiated: it is important that the assessors set out a transparent methodology that explains how they approach the assessment and that they then demonstrably apply that methodology in their assessment. The methodology should explain how the assessor deems whether or not a significant effect will occur, allowing others to see the weight attached to different factors and can understand the rationale of the assessment (see the box below).

Box 24: Methodological considerations on the assessment of significant effects in the EIA Report

As mentioned in the IEMA Special report:

'In order to provide justifiable results, EIA practitioners gather evidence to inform and explain the evaluation of an individual effect. Effective EIA practice ensures that the methods used are clearly explained in the environmental statement (now EIA Report) so that they can be readily understood by the stakeholders and the public consulted. The assessment's findings are regularly set out as different levels of significance (e.g. major, moderate, minor, etc.).

This approach is considered good practice: whilst recognising the inherent subjectivity of the assessment, it attempts to aid communication of the scale of the impact by introducing a classification. This approach also allows the practitioner to identify and discuss effects that some groups may consider significant, whilst others would not. For example, a negative landscape effect described as being of 'minor significance' might be considered to indicate that a majority of people would not consider the effect to be significant; however, a smaller group, perhaps within the local community, may disagree and consider the effect to be significant.'

IEMA special report: The State of Environmental Impact assessment practice in the UK

At the same time, significance determinations should not be the exclusive prerogative of 'experts' or 'specialists': significance should be defined in a way that reflects what is valued in the environment by regulators and by public and private stakeholders. A common approach used in EIA is the application of a multi-criteria analysis. Common criteria used to evaluate significance include the magnitude of the predicted effect and the sensitivity of the receiving environment:

- **Magnitude** considers the characteristics of the change (timing, scale, size, and duration of the impact) which would probably affect the target receptor as a result of the proposed Project;
- **Sensitivity** is understood as the sensitivity of the environmental receptor to change, including its capacity to accommodate the changes the Projects may bring about.

A LIFE + Project has developed a practical tool that uses the multi-criteria analysis to assess the most significant environmental impacts of various Projects and to illustrate the results thereof. This Project is detailed in the box below.

Box 25: IMPERIA project: improving environmental assessment by adopting good practices and tools of multi-criteria decision analysis

The aim of the IMPERIA Project was to collect good practices and to develop new methods and tools to enhance effective and good-quality impact assessments with transparent and clear reporting in the context of EIA and SEA.

The Project proposes the use of multi-criteria analysis methods to collect, organise and to present the possible impacts of developments and plans in a systematic, comprehensive and transparent way. The tools developed in IMPERIA enable the structured comparison of impacts affecting different objects, acting in different directions, and involving different scales.

The ARVI method is the key deliverable of the Project: it is an excel-based tool for impact significance assessment and for the comparison of Alternatives. It allows experts assessing different types of impacts to follow uniform principles and to report about the reasoning chains in an illustrative manner.

IMPERIA project: Improving Environmental Assessment by Adopting Good Practices and Tools of Multi-Criteria Decision Analysis

1.4.3 Cumulative effects

It is important to consider effects not in isolation, but together; that is, cumulatively. Data collected during this stage may indeed show that analysed impacts become significant when they are added together or with other effects. While the concept of cumulative effects ties in closely with significant effects, as seen in the legislation box above, Annex IV, point 5 (e) of the EIA Directive requires that the cumulation of effects with other existing and/or approved Projects are described in the EIA Report. Cumulative effects are changes to the environment that are caused by an action in combination with other actions. They can arise from:

- the interaction between all of the different Projects in the same area;
- the interaction between the various impacts within a single Project (while not expressly required by the EIA Directive, this has been clarified by the CJEU – see the box below).

The coexistence of impacts may increase or decrease their combined impact. Impacts that are considered to be insignificant, when assessed individually, may become significant when combined with other impacts. The box below provides clarification on these points, in light of case-law from the CJEU.

Box 26: Cumulative effects - useful interpretation from CJEU case-law

Interaction between different Projects in the same area:

- 'Not taking account of the cumulative effect of Projects means in practice that all Projects of a certain type may escape the obligation to carry out an assessment when, taken together, they are likely to have significant effects on the environment within the meaning of Article 2(1) of the Directive.' CJEU, C-392/06, *Commission v Ireland*.
- 'A national authority must examine [a Project's] potential impact jointly with other Projects. Moreover, where nothing is specified, that obligation is not restricted only to Projects of the same kind.' CJEU, C-531-13, *Marktgemeinde Straßwalchen and Others*.

Interaction between the various impacts within a single Project:

- 'The Court indicated as much for road Projects (CJEU, C-142/07, *Ecologistas en Accion-CODA*) as for transboundary Projects (CJEU, C-205/08, *Umweltanwalt von Kärnten*) that the whole Project should be considered: the division into fifteen sub-Projects of a road Project or the existence of a border splitting a power line Project in two sections does not mean the Project is below the threshold set by the Directive' (M.Clément, *Droit Européen de l'Environnement, Jurisprudence commentée*, 3ème edition 2016, p. 147-148).

Cumulative effects can occur at different temporal and spatial scales. The spatial scale can be local, regional or global, while the frequency or temporal scale includes past, present and future impacts on a specific environment or region.

Because of their complex nature, significance thresholds and criteria for the assessment of cumulative effects should be defined through a collaborative approach, involving all of the interested and affected parties in the process of data collection and analysis. They may also need to make greater use of interdisciplinary perspectives and methods: e.g. network diagrams and models that identify the cause-effect relationships which result in cumulative effects, trend analyses that identify historical, current and future trends for a given resource, and interactive matrices that consider the interactions of magnitude of the impacts assessed individually (for full reference to Lawrence D. (2005), Significance Criteria and Determination in Sustainability-Based Environmental Impact Assessment see the Annex to this Guidance Document on Other Relevant Guidance and Tools).

Box 27: In practice – 2014 amendments to the EIA Directive

The concept of significance is not a new concept for the EIA Directive; however, the use of the word is more noticeably present in the aftermath of the 2014 changes. In many instances, the addition of the word would have little impact for practitioners, as the effects identified and studied would have often been significant. However, it should be noted that:

- The 2014 amendments align the EIA Directive with the SEA Directive (Annex I(f) to the SEA Directive);
- Practitioners are dissuaded from using resources to investigate insignificant effects;
- Practitioners should make sure that they have grounds for determining significance, which can be defended if need be;
- The cumulation of effects is now specifically mentioned in a stand-alone paragraph, under Annex IV, point 5(e), in addition to being iterated in the list of Annex IV, point 5 last paragraph.

1.4.4 Assessing effects on the environment: In a nutshell

- Effects to be assessed in the EIA should be determined to be significant. This ensures that effort is not wasted on insignificant effects.
- Significance is covered in detail in the Guidance Document on Scoping, which should be read by anyone preparing an EIA Report who is forced to determine the significance of environmental effects.
- Practitioners should determine significance based on their own judgement, clearly stating their methodology and reasons for the conclusion. At the same time, there are various criteria available for use, including a multi-criteria analysis.
- When considering significance, the cumulative effects of all of the Projects in the area, both spatial and temporal, should be considered.

1.5 MANDATORY ASSESSMENT OF ALTERNATIVES

This section covers the selection, description, and assessment of the reasonable Alternatives required by the EIA Directive. Within the context of the EIA process, Alternatives are different ways of carrying out the Project in order to meet the agreed objective. Alternatives can take diverse forms and may range from minor adjustments to the Project, to a complete reimagining of the Project.

1.5.1 The notion of Alternatives

The identification of Alternatives to the Project is a long-standing requirement of the EIA Directive, but it is often mentioned by practitioners as comprising a difficult element of the EIA process. The consideration of Alternatives is an important part of the EIA process, which ought to be reflected in the effort and resources allocated to this part of the EIA process (see e.g. Jalava, K., et al., (2010) Quality of Environmental Impact Assessment, full references in the Annex to this Guidance Document on Other Relevant Guidance and Tools).

Identifying and considering Alternatives can provide a concrete opportunity to adjust the Project's design in order to minimise environmental impacts and, thus, to minimise the Project's significant effects on the environment. Additionally, the proper identification and consideration of Alternatives from the outset can reduce unnecessary delays in the EIA process, the adoption of the EIA decision, or the implementation of the Project.

The legal requirements of the EIA Directive, relating to the assessment of Alternatives, are presented in the box below.

Box 28: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(1) states that the developer shall include at least:

- d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;
- f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

Annex IV point 2 expands further:

2) 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.

Put simply, the Developer needs to provide:

- A description of the reasonable Alternatives studied; and
- An indication of the main reasons for selecting the chosen option with regards to their environmental impacts.

The number of Alternatives to a proposed Project is, in theory, infinite, considering that the Directive does not specify how many Alternatives should be considered. National legislation or general practice may, however, dictate how many Alternatives are to be considered. The number of alternatives to be assessed has to be considered together with the type of alternatives, i.e. the 'Reasonable Alternatives' referred to by the Directive. 'Reasonable Alternatives' must be relevant to the proposed Project and its specific characteristics, and resources should only be spent assessing these Alternatives. In addition, the selection of Alternatives is limited in terms of feasibility. On the one hand, an Alternative should not be ruled out simply because it would cause inconvenience or cost to the Developer. At the same time, if an Alternative is very expensive or technically or legally difficult, it would be unreasonable to consider it to be a feasible Alternative.

Section 1.7 below expands further on Monitoring Measures, but if significant adverse effects can be avoided, prevented, reduced, or offset, it is likely that Monitoring Measures will be required. The costs of these Monitoring Measures should be considered, given that they may lead to the economic unfeasibility of the Project. In this regard, the costs of the Mitigation/Compensation Measures may also need to be considered.

Ultimately, Alternatives have to be able to accomplish the objectives of the Project in a satisfactory manner, and should also be feasible in terms of technical, economic, political and other relevant criteria. A brief checklist, highlighting key reasons why an Alternative might *not* be considered to be reasonable, is provided in the box below.

Box 29: An Alternative may be considered unreasonable/infeasible if:

- There are technological obstacles: high costs of a required technology may prevent it from being considered to be a viable option, or the lack of technological development may preclude certain options from consideration;
- There are budget obstacles: adequate resources are required to implement Project Alternatives;
- There are stakeholder obstacles: stakeholders opposed to a Project Alternative may make a particular option unattractive;
- There are legal or regulatory obstacles: regulatory instruments may be in place that limit/prohibit the development of a specific Alternative.

The feasibility of the Alternatives proposed can be determined on a case-by-case basis. The final set of reasonable Alternatives identified will then undergo a detailed description and assessment in the EIA Report.

Box 30: In practice – 2014 amendments to Alternatives

- In Article 5, the 'outline of the main Alternatives' has been replaced with a 'description of the reasonable Alternatives' studied by the Developer.
- Annex IV provides examples of the types of reasonable Alternatives (Project design, technology, location, size, and scale). Annex IV also requires a comparison of the environmental effects across the options as justification for selecting the chosen option, whereas previously the requirement was that such effects had to be 'taken into account'.

- Prior to 2014, 13 Member States[12] had already introduced a legal obligation to consider different types of Alternatives (including the 'do-nothing' scenario in some cases – see below).

1.5.2 Identifying Alternatives

This section further explains the types of Alternatives that should be identified and assessed in the EIA Report. It should be noted that each Project and each EIA is different, and there can be no definitive list prescribing how Alternatives are to be identified and assessed. Practices and legal requirements vary greatly between Member States, and practitioners should check these before beginning to consider Alternatives. In some cases, Alternatives will have been developed at the plan stage (e.g. a plan for the transport sector, a regional development plan, or a spatial plan) or by the Developer during the Project's initial design. In such cases, some Alternatives may have already been excluded, in which case, it would likely be unnecessary to consider them again. In other cases, the EIA practitioner may have to work out Alternatives or variants of Project components in order to mitigate significant environmental impacts that emerge during assessment. The process is iterative and requires some flexibility and good communication between all parties.

An open mind should be kept when considering the scope and nature of Alternatives. Indeed, depending on the Project at hand, Alternatives that should be considered may refer to the fundamental design of the Project itself, or may concern finer details, such as the technical specifications of the Project. In some cases, Alternatives to the type of Project should also be considered. It may even be the case that important Alternatives fall outside the expertise or remit of the Developer (i.e. that could not be implemented by the Developer). If relevant, these should not to be dismissed as being unreasonable from the outset.

The identification of Alternatives can be facilitated on the basis of information available at the planning level or the information received through the public consultation. If Project Alternatives have been explored in a plan or programme, practitioners should check SEAs and other environmental assessments undertaken in the near vicinity for similar Projects for Alternatives which may be relevant for the EIA. Public consultations can also help to identify reasonable Alternatives. Not only do the public concerned have local knowledge, which should be utilised, they may also give an indication of the reasonableness of an Alternative. Moving a bridge 15km downstream may increase environmental benefits, but if Developers have to fight or compensate commuters upset about an increased journey to work, then the Alternative may be deemed unreasonable.

However, Alternatives are to be identified and assessed both by the developer and the competent authorities and it is very important that the identification and consideration of Alternatives should not be treated as a mere formality.

Types of Alternatives to be considered

Annex IV to the Directive gives some examples of the types of Alternatives to be considered and which include:

- Project design;
- technology;
- location;
- size;
- scale.

[12] According to IA in 2012: Bulgaria, Denmark, Estonia, Finland, Germany Greece, Italy, Netherlands, Poland, Romania, Slovakia, Spain.

This list serves as inspiration for a multitude of other Alternatives. These roughly relate to the categories above. Some such Alternatives are listed below:

- the nature of Project;
- timeframes for construction or the lifespan of the Project;
- process by which the Project is constructed;
- equipment used either in the construction or running of the Project;
- site layout (e.g. location of buildings, waste disposal, access roads);
- operating conditions (e.g. working schedule, timing of emissions);
- physical appearance and design of buildings, including the materials to be used;
- means of access, including principal mode of transport to be used to gain access to the Project.

The Competent Authority in charge of the Scoping phase may already have highlighted, if not required, the consideration of certain Alternatives during the preparation of the EIA Report (see the Guidance Document on Scoping). As highlighted in the example below, a number of Alternatives can be indicated during the Scoping phase. A number of reasons may lie behind these choices, including the key EIA concepts of significant effects and reasonableness.

Box 31: Examples of Alternatives identified and considered in the construction of a power line in Portugal

The Project concerned the construction of a power line crossing the Alto Douro Wine Region (UNESCO World Heritage). During the Scoping phase several points were identified:

- Aerial vs. underground lines;
- 400 kV vs. 220 kV line capacity;
- 6 possible points of connection to the national grid, and 9 different routes were indicated.

1.5.3 Assessing Alternatives

Methods for assessing Alternatives

The EIA Directive requires that Developers provide the main reasons for selecting the option chosen. This means that the resources should not be spent on an intricate explanation; however, the reasons should be transparent.

The method for assessing Alternatives will depend on the type of Alternatives; the only requirement in the EIA Directive is a comparison of the environmental effects (Annex IV to the EIA Directive). However, Developers should be flexible during the assessment of Alternatives. During the assessment, one preferred Alternative may transpire to be 'unreasonable'; in other cases, one Alternative may inspire other Alternatives. The level of detail concerning the description of the environmental effects of the Alternatives may be less than for the chosen option. Nevertheless, the aim of the exercise is to provide a transparent and well justified comparison.

Local knowledge and interests are also very important during the assessment of Alternatives and, therefore, dialogues with the public concerned on Alternatives are encouraged where appropriate. In certain situations, this may already be required by other permitting processes parallel to the EIA (e.g. when deciding on an electricity line's route planning, national law may mandate for dialogue with land-owners in addition to organising public consultations as part of the EIA). In addition, after the EIA Report has been drafted (see section B.3.) during public consultations ensuring the public is aware that Alternatives have been considered, and providing clear reasons why the final choice was made, increases transparency. Ensuring early participation with the public concerned on Alternatives is a good practice that could not only save resources, but also reduce delays as a result of challenges arising from the public or other organisations/authorities.

Assessing the 'do-nothing' scenario

The 'do-nothing' scenario or 'no Project' Alternative describes what would happen should the Project not be implemented at all. In some Member States, national legislation requires the 'do-nothing' scenario to be considered and included in the EIA Report. In some cases, however, the 'do-nothing' scenario cannot be considered a feasible policy option, as a Project is very clearly needed: for example, if another policy dictates an action, such as a waste management plan, which requires improved waste management, then a new plant must be built.

The 'do-nothing' scenario is heavily based on the Baseline. Therefore, the section of this Guidance Document on developing the Baseline should be consulted, in order to ensure a solid foundation for the 'do-nothing' scenario.

1.5.4 Mandatory assessment of Alternatives: In a nutshell

- The EIA Directive requires Developers to describe the reasonable Alternatives that have been identified and studied and to compare their environmental impacts against the Project option chosen. This is an important aspect of the EIA Report and one that often challenges practitioners and Developers. Alternatives have to be 'reasonable', meaning that feasible Project options meet the Project's objectives.
- The 2014 amendments to the Directive now require the EIA Report to include a description of the reasonable Alternatives (as opposed to an 'outline') studied by the developer who holds the pen. They also suggest types of Alternatives, such as Project design, technology, location, size, and scale.
- The approach to identifying Alternatives is highly Project-specific. Some Alternatives are overarching and may be identified in plans and programmes (e.g. transport plans or regional development programmes) or by the Competent Authority at the EIA Scoping stage. Others might concern the technical design and are identified by the Developer. In cases, EIA practitioners may identify Alternatives and propose them to the Developer. The process of identifying and assessing Alternatives is iterative and requires some flexibility and good communication between all parties.
- Consultation with the public is usually very important both for identifying and assessing Alternatives. A clear presentation of Alternatives, and how they have been assessed, also lends transparency to the process and can improve public acceptance and support for Projects.
- The environmental assessment of Alternatives should be targeted and focused on the comparison of impacts between several options and presented as such in the EIA Report.

1.6 MITIGATION AND COMPENSATION MEASURES

Measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment are described in the EIA Report. These measures are commonly referred to as 'Mitigation Measures', with the exception of the last action, offsetting, which can be considered to be a Compensation Measure. The box below sets out the legislative requirements.

Box 32: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(1) of the Directive states that:
'(…) the developer shall include at least:
- (c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;'

Annex IV point 7 states that:
'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 preparing of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover by the construction and operational phases.'

In addition to the legislative requirements, Recital 35 of the 2014 Directive amending the EIA Directive references 'mitigation and compensation measures', noting that such measures should be appropriately monitored.

Box 33: In practice – 2014 amendments to the measures to mitigate and compensate

- In Article 5, the actions 'prevent' and 'offset' have been added.
- Annex IV point 7 now includes 'avoid' (although 'prevent' is not new to Annex IV).
- Annex IV also includes the new provision to provide Monitoring Measures, and a description explaining the extent to which significant adverse effects on the environment are avoided, prevented, reduce or offset, specifically referencing that these apply to both the construction and operational phases.

When considering Alternatives, such Mitigation Measures might influence how Alternatives are assessed. For example, an Alternative might be considered unfeasible until a Developer factors in a Mitigation or Compensation Measure that reduces the impact of the Alternative. In addition, by considering Mitigation Measures when considering all Alternatives, even feasible Alternatives may benefit from a more environmentally sound Project design, ultimately ensuring a high level of environmental protection.

Different types of Mitigation Measures act in different ways to reduce adverse impacts:

Box 34: Types of Mitigation Measures

Type of measure	How it works
Measures to prevent	Impact avoidance by: ■ Changing means or techniques, not undertaking certain Projects or components that could result in adverse impacts. ■ Changing the site, avoiding areas that are environmentally sensitive. ■ Putting in place preventative measures to stop adverse effects from occurring.
Measures to reduce	Impact minimisation by: ■ Scaling down or relocating the Project. ■ Redesign elements of the Project. ■ Using a different technology. ■ Taking supplementary measures to reduce the impacts either at the source or at the receptor (such as noise barriers, waste gas treatment, type of road surface).
Measures to offset	Offset or compensate for residual adverse impacts that cannot be avoided or further reduced in one area with improvements elsewhere with: ■ Site remediation / rehabilitation / restoration. ■ Resettlement. ■ Monetary compensation.

For the purposes of the Directive, in accordance with the precautionary and preventive action principle, a long-term approach should be promoted, and priority should be given to avoiding impacts (prevention measures), while remediation and Compensatory Measures should only be considered as a last resort.

Mitigation and Compensation Measures are assessed on the basis of how effective they are in reducing potentially significant adverse environmental impacts. In some cases, existing legislation (e.g. the IED - see the Annex to this Guidance Document on Other Relevant Guidance and Tools), refers to the use of best available techniques, as set out in reference documents, in order to ensure that operators use the latest, most effective and economically justified technology to protect the environment. From this perspective, best available techniques can provide a very reliable starting place for Developers to identify risk management approaches and technologies that may be in turn be suggested as Mitigation Measures in an EIA Report. The EIA Report should clearly describe the adverse impact each measure is intended to avoid, mitigate or compensate when implemented. It should also describe the effectiveness of such measures, their reliability and certainty, as well as the commitment to ensuring their practical implementation and monitoring of the results.

1.6.1 Mitigation and Compensation Measures: In a nutshell

- Mitigation and Compensation Measures should be considered when assessing Alternatives, both with a view to strengthening the feasibility of Projects, and to improving the Project's design.
- Both Mitigation and Compensation Measures may be costly, and may influence the choice of Alternatives
- Mitigation and Compensation Measures may apply to both the construction and operational phases of the Project.
- A description of Mitigation and Compensation Measures for significant adverse effects must be incorporated in the decision to grant Development Consent for a Project (see section 3.2. on 'Decision-making: Reasoned Conclusion and Development Consent' of this Guidance Document).

1.7 MONITORING

This section covers the legislative requirements of the EIA Directive to ensure that adequate Monitoring Measures are in place, both during the construction and operational phases of the Project. It also sets out some guidelines to help practitioners to identify possible Monitoring Measures.

1.7.1 Legislative requirements for EIA monitoring

Monitoring Measures must be incorporated in the Development Consent for a Project if the Project is likely to have significant adverse effects (see the section on decision-making below). Monitoring Measures are, therefore, referred to in Article 8a of the EIA Directive, which outlines the information to be incorporated in the Development Consent, and the Monitoring Measures proposed (if appropriate) should be included in the EIA Report. The description of Monitoring Measures is linked to the description of measures proposed to mitigate significant adverse effects on the environment and should be directly linked to ensuring these measures are carried out successfully.

Monitoring Measures may be developed directly for the Project in question, or may arise from other requirements – EU or national legislation governing the operation of a Project, funding requirements or other sources. It is important – and a requirement of the Directive – that there is no duplication or inconsistency of effort in monitoring. With a view to avoiding duplication, if Monitoring Measures stem from other EU or national legislation, then this should be reflected in the EIA Report so as to inform the Competent Authority. The Competent Authority may then decide to use these existing measures if appropriate (Article 8a (4) 3rd paragraph). Indeed, the 2012 Impact Assessment for the review of the EIA Directive estimated that 50% of Projects developed each year would fall under other EU legislation requiring monitoring, and thus monitoring would be carried out regardless of EIA requirements.

The relevant requirements of the EIA Directive are given in the box below.

Box 35: Directive 2011/92/EU as amended by Directive 2014/52/EU

Annex IV point 7 on the information referred to in Article 5(1) sets out the information for the EIA Report and includes:

- (7) 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 offset, and should cover both the construction and operational phases.

As the proposed monitoring measures mentioned above are used to develop the final measures issued with the development consent, Article 8a is also relevant. This Article states:

- (1) The decision to grant development consent shall incorporate at least the following information: [….]
  (b) any environmental conditions attached to the decision, a description of any features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment as well as, where appropriate, monitoring measures.

In addition, Article 8a also states:

- (4) In accordance with the requirements referred to in paragraph 1(b), Member States shall ensure that the features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment are implemented by the developer, and shall determine the procedures regarding the monitoring of significant adverse effects on the environment.

  The type of parameters to be monitored and the duration of the monitoring shall be proportionate to the nature, location and size of the project and the significance of its effects on the environment.

  Existing monitoring arrangements resulting from Union legislation other than this Directive and from national legislation may be used if appropriate, with a view to avoiding duplication of monitoring.

Monitoring is also referenced in Recital 35[13] of the 2014 Directive amending the EIA Directive. Although it is not legally binding, it explains the intent of the Directive on monitoring, emphasising the need for the results of the EIA to be implemented in practice, and for procedures to be put in place to ensure that this is the case.

The 2014 amendments to the Directive have strengthened the requirements for monitoring in both the EIA Report and the Development Consent. A summary is given in the box below.

Box 36: In practice – 2014 amendments to measures to monitor

- Monitoring of significant adverse effects on the environment and/or measures taken to mitigate them is now required (where appropriate) when issuing Development Consent.
- Monitoring arrangements may be required by other EU legislation and, therefore, monitoring carried out under the EIA Directive should not result in duplication.
- Monitoring arrangements have to be examined, where appropriate, during the preparation of the EIA Report and are to be included in the EIA Report.

[13] Recital 35 of the 2014 Directive amending the EIA Directive: 'Member States should ensure that mitigation and compensation measures are implemented, and that appropriate procedures are determined regarding the monitoring of significant adverse effects on the environment resulting from the construction and operation of a project, inter alia, to identify unforeseen significant adverse effects, in order to be able to undertake appropriate remedial action. Such monitoring should not duplicate or add to monitoring required pursuant to Union legislation other than this Directive and to national legislation'.

1.7.2 Objectives of Monitoring Measures

The monitoring requirements can help ensure:

- Significant adverse impacts from the construction and operation of Projects do not exceed impacts Projected in the EIA Report and that measures taken to offset such impacts are carried out as planned;
- the methods with which significant adverse effects can be assessed for robustness. This can help to improve the identification of impacts in future EIA Reports;
- the EIA is in line with other EU legislation, especially the SEA Directive[14].

These three points are examined below in turn.

Monitoring ensures the Project meets predicted impacts

The EIA Directive aims to reduce Projects' significant adverse effects on the environment, as much as possible; however, some Projects cannot be implemented without significant impacts on the environment. During the EIA process, such impacts are not only identified, but their evolution is also forecasted. The systematic ex-post impact monitoring of adverse significant effects, resulting from the Project, offers an opportunity to identify if forecasted impacts are not developing as predicted, so that steps may be taken for rectification. This monitoring also tracks the effectiveness of measures set in place to mitigate or to compensate for significant effects. Monitoring also allows for additional or unforeseen relevant information to be taken into account, climate change or cumulative impacts for example, again allowing for remedial action.

Assessment for future EIAs

In addition to evaluating the impacts of a Project, ex-post Project monitoring can also shed light on the effectiveness of the EIA procedure, with regards to the quality of the data used and the accuracy of the approaches and methods. This can improve the transparency, legitimacy, and effectiveness of the EIA process, especially if documented evidence of the actual environmental impacts of a Project is publicly available.

Other EU legislation

The SEA Directive, IED, and WFD all require ex-post monitoring, and the Habitats Directive recommends monitoring, after an Appropriate Assessment, to be a good practice (more information about these other EU instruments can be found in the Annex to this Guidance Document on Links with Other EU Instruments). The MSFD also requires Member States to establish and implement coordinated monitoring programmes for the ongoing assessment of the environmental status of their marine waters. Further consideration of these Directives, as well as associated EU, or national-level, guidance documents should be carried out, not only as a means to avoid duplication when a Project falls under more than one Directive, but also as a baseline upon which to develop guidance on ex-post EIA monitoring. In more practical terms, monitoring should not duplicate the monitoring carried out under other assessments; therefore, practitioners should make themselves aware of other such arrangements.

The European Commission already had the opportunity to publish a guidance document on streamlining environmental assessments, including monitoring. Information from this document is

[14] For more information on the importance and utility of EIA follow-up, please refer to Morrison-Saunders A., R. Marshall and J. Arts 2007 EIA Follow-Up International Best Practice Principles. Special Publication Series No. 6. Fargo, USA: International Association for Impact Assessment.

relevant and a selection from which is presented in the box below.

Box 37: Monitoring requirements for other EU environmental legislation	
Appropriate assessment (Habitats Directive)	■ Monitoring is considered good practice. ■ In particular, the monitoring of Mitigation or Compensation Measures will help to ensure effectiveness (either ensuring that there are no adverse effects on the integrity of the site or by maintaining network coherence).
SEA	■ Member States monitor the significant environmental effects of the implementation of plans and programmes to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action (Article 10(1)). ■ The EIA Report shall include 'a description of the measures envisaged concerning monitoring' (Annex I (i)). ■ Monitoring allows the actual significant environmental effects of implementing the plan or programme to be tested against those predicted. Any problems that arise during implementation, whether they have been foreseen or not, can be identified and future predictions can be made more accurately. ■ Monitoring can be integral in compiling baseline information for future plans and programmes, and in preparing information which will be needed for EIAs of Projects.
IED	■ Member States shall take the necessary measures to ensure that the Competent Authority periodically reconsiders all permit conditions and, where necessary to ensure compliance with the IED Directive, updates those conditions. ■ If the Competent Authority so requests it, the operator shall submit all information necessary for reconsidering the permit conditions, including, in particular, results of emission monitoring and other data, that enables a comparison of the operation of the installation with the best available techniques and with the emission levels associated with the best available techniques (Article 21 (1)-(2)). ■ Member States shall ensure that the monitoring of air polluting substances is carried out (Article 38). The monitoring of the emissions is prescribed in Article 48, Article 60, Article 70, and it depends on the type of the installations.
WFD	■ The WFD includes the requirement to establish monitoring programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district (Article 8 and Annex V).
Extracts from: European Commission, 2016, Commission guidance document on streamlining environmental assessments conducted under Article 2(3) of the EIA Directive, OJ C 273/1, 27.07.2016	

1.7.3 Developing Monitoring Measures

Developing monitoring indicators is an essential first step for any monitoring activity. These indicators are highly dependent upon the type of Project concerned; however, consultation of the Baseline (see the section concerning the Baseline) may guide Developers in identifying the right indicators. In addition, some indicators, water and air for example, may come from EU legislation such as the WFD and the IED.

Taking the legislative requirements outlined in this section into account, as well as Recital 35, Monitoring Measures could:

- Make sure that the significant effects identified develop as predicted;
- Ensure that the measures in place to mitigate and compensate significant adverse effects are carried out;
- Identify unpredicted significant adverse effects.

The types and number of environmental parameters to monitor, and the monitoring frequency, are very Project-specific, and need to be proportionate to the Project's relevant parameters. The Directive

provides some suggestions on these in Article 8a(4): the 'nature, location and size of the Project and the significance of its effects on the environment'. In essence, this means that the time, effort, and costs put into Monitoring Measures should be justified by how important the potential environmental impacts will be, as well as the complexity of any Mitigation and Compensation Measures recommended in the EIA Report to avoid, prevent, reduce or to offset effects. The cost of monitoring can indeed be a decisive factor when considering not only the Alternatives (as mentioned above), but also when developing Monitoring Measures. Other parameters, such as the sensitivity of the local environment, the number and type of affected stakeholders, and the level of uncertainty regarding the assumptions and Projections made in the assessment itself should also be taken into account.

Monitoring data collection and evaluation activities should be frequent enough so that the information generated is still relevant, but not so frequent as to be a burden to those implementing the process. Monitoring need not be difficult or overly technical, and could even be as simple as a photo taken from the same vantage point over time, if such a photo clearly documents the relevant indicator.

The EIA Directive does not specify how to carry out monitoring, who should do it or how monitoring results should be analysed and used. Below are some more practical suggestions that Developers and practitioners can take into account when designing Monitoring Measures as part of the EIA Report.

- Monitoring Measures should be detailed enough to allow for proper implementation – the parameters, frequency, methods, responsibilities, and resources should be identified in advance.
- Authorities issuing the Development Consent should be satisfied that monitoring results will be evaluated by relevant authorities, naming such authority if relevant (this could be done via random inspection). Rather than carrying out monitoring individually for each Project, measures could be coordinated at higher level (depending on the Projects this may take place in a variety of different fora such as municipal plans, via an SEA, or more informally). The section on Baseline recommends developing a database to reduce the time spent on extensive field surveys and to facilitate future environmental assessments for similar Projects. Such a database would also be closely linked to monitoring results from ongoing Projects.
- Discussions with authorities and communities during the Scoping stage would help identify issues requiring monitoring. This can also build trust and partnerships that may become valuable when collecting data for monitoring.
- To the extent that it is reasonable, Monitoring Measures should have the capacity to identify any unforeseeable adverse effects, meaning that they should take the state of the affected environment, as well as the specific impacts (e.g. emissions, resource use) generated by the Project, into account.
- Monitoring results should be made available to the Competent Authorities and to the public.

Box 38: Examples of Monitoring Measures

The French 'Grenelle 2' law, n°2010-788 of 12 July 2010 introduced a requirement for EIAs to include a description of how the effectiveness of the main preventing/mitigating/offsetting measures would be monitored; it also introduced the possibility for Developers to be inspected in order to check that such measures have actually been implemented (cf. 2012 IA).

A good practice example, recommended by the European Commission Guidance Document on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (see the Annex to this Guidance Document on Other Relevant Guidance and Tools), involves the ex post monitoring programme established for wind farm developments in the North Sea. In the Belgian part of the North Sea, several areas within a specifically designated zone have been given in concession to wind farm operators. The Belgian Competent Authority has set up a joint monitoring programme that is financed by the wind farms in operation, given that it is not efficient to require each wind farm operator to run a similar ex-post monitoring programme independently.

1.7.4 Monitoring: In a nutshell

- Monitoring Measures for Projects with significant adverse effects must be incorporated in the decision to grant Development Consent for a Project and, as such, should generally be included in the EIA Report. Monitoring Measures may be linked to other legal requirements, such as those stemming from the IED, WFD or the Habitats Directive. Care must be taken to avoid duplication in Monitoring Measures in this regard. Requirements on Monitoring Measures were added to the EIA Directive as part of the 2014 amendments (Article 8a and Annex IV).
- Generally, Monitoring Measures can help to ensure that Projects meet all existing environmental legal requirements, and that impacts are in line with EIA Report Projections. They should also ensure that any Mitigation or Compensation Measures for expected significant effects are carried out as planned.
- Monitoring Measures can also provide insight into the quality of the EIA procedure carried out, and can generate lessons learned and good practices for future EIAs.
- Practitioners should first check which Monitoring Measures are required by other legislation. If these are not sufficient or appropriate for monitoring the expected environmental impacts or proposed Mitigation Measures, then additional measures may be proposed within the EIA Report. Monitoring Measures should always strive to be proportionate to the nature of the environmental impacts in terms of the time, costs, and other resources involved.
- Monitoring Measures should be specific and detailed enough to ensure their implementation, including defining roles, responsibilities, and resources. In some cases, economies of scale can be achieved through the joint monitoring of related Projects. Measures should also be capable of identifying important unforeseen effects

2 QUALITY OF THE EIA REPORT

This section covers the quality of the EIA Report. It addresses the format and presentation of the EIA Report, and the more recent requirements concerning the competence of the experts involved in preparing and reviewing the EIA Report.

2.1 FORMAT AND PRESENTATION OF THE EIA REPORT

The main aim of an EIA Report is to provide prudent information for two types of audiences – decision-makers and people potentially affected by a Project. The Report, therefore, must communicate effectively with these audiences.

2.1.1 The qualities of a good EIA Report

To this end, Article 3(1) of the EIA Directive requires that significant effects be identified, assessed and described in an 'appropriate manner'. Article 5(1) sets the form – the information should be presented in an EIA Report that enables stakeholders and authorities to form opinions and to take decisions regarding the proposed Project. While there are no formal requirements concerning the format and the presentation of the report, it is recommended that the EIA Report clearly sets out the methodological considerations and the reasoning behind the identification and assessment of significant effects, so that others can see the weight attached to different factors and can understand the rationale of the assessment.

The box below provides some of the main characteristics that a good EIA Report should have to meet this objective.

Box 39: The qualities of a good EIA Report

- A clear structure with a logical sequence that describes, for example, existing Baseline conditions, predicted impacts (nature, extent and magnitude), scope for mitigation, proposed Mitigation/Compensation Measures, significance of unavoidable/residual impacts for each environmental factor;
- A table of contents at the beginning of the document;
- A description of the Development Consent procedure and how EIA fits within it;
- Reads as a single document with appropriate cross-referencing;
- Is concise, comprehensive and objective;
- Is written in an impartial manner without bias;
- Includes a full description and comparison of the Alternatives studied;
- Makes effective use of diagrams, illustrations, photographs and other graphics to support the text;
- Uses consistent terminology with a glossary;
- References all information sources used;
- Has a clear explanation of complex issues;
- Contains a good description of the methods used for the studies of each environmental factor;
- Covers each environmental factor in a way which is proportionate to its importance;
- Provides evidence of effective consultations (if some consultations have already taken place)
- Provides basis for effective consultations to come;
- Makes a commitment to mitigation (with a programme) and to monitoring;
- Contains a Non-Technical Summary which does not contain technical jargon;
- Contains, where relevant, a reference list detailing the sources used for the description and assessments included in the report.

2.1.2 The Non-Technical Summary

As can be seen in the box above, Article 5(1)(e) of the EIA Directive requires Developers to include a Non-Technical Summary of the EIA Report. This obligation is reiterated under Annex IV, point 9.

Box 40: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(1)

1. Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:

- (e) a non-technical summary of the information referred to in points (a) to (d);

Annex IV point 9

9. A non-technical summary of the information provided under points 1 to 8.

The contents of that summary are broad: Article 5(1) lists points (a) to (d) which includes almost all of the elements listed under Article 5(1), while Annex IV point 9 lists points 1 to 8, again almost all of the elements included in this Annex. This summary is, therefore, broadly encompassing as it needs to include the description of the Project, the significant effects, Mitigation Measures, Monitoring Measures, the Baseline, and reasonable Alternatives, as well as the methods used for the assessment including explanations on any hurdles encountered during the analysis. This indicates that the Non-Technical Summary ought to be more than just a few pages long. However, it should be borne in mind that it is a summary and needs to be concise and engaging enough to enable stakeholders and the public to get a proper sense of the key issues at stake and the proposed way forward. Depending on the Project, and the degree of complexity of the environmental issues involved, a Non-Technical Summary of 10 to 30 pages in length is generally considered to be good practice.

Moreover, the term 'non-technical' indicates that this summary should not include technical jargon. It should be understandable to someone who does not have a background in the environment or in-depth knowledge of the Project, and should be easily identifiable within the EIA Report –provided either at the very beginning or at the very end of the document.

EIA Report authors may also consider providing context about the methodology for carrying out the EIA, highlighting any significant uncertainties about the outcomes. It may also be useful to describe the Development Consent process for the Project, and the role of the EIA in this process, to help lay members of the public to understand the context for the EIA.

The box below summarises elements that are typically found in a good Non-Technical Summary for an EIA Report. These points are further reiterated in the checklist under Part C.

Box 41: The qualities of a good Non-Technical Summary

- The Non-Technical Summary is easily identifiable and is accessible within the EIA Report;
- The Non-Technical Summary provides a concise, but comprehensive description of the Project, its environment, the effects of the Project on the environment, the proposed Mitigation Measures, and the proposed monitoring arrangements;
- The Non-Technical Summary highlights any significant uncertainties about the Project and its environmental effects;
- The Non-Technical Summary explains the Development Consent process for the Project and the role of the EIA in that process;
- The Non-Technical Summary provides an overview of the approach to the assessment;
- The Non-Technical Summary is written in non-technical language, avoiding technical terms, detailed data and scientific discussion;
- The Non-Technical Summary is comprehensible to a lay member of the public.

2.2 THE COMPETENCE OF EXPERTISE AND QUALITY CONTROL

2.2.1 Legal requirements

The effectiveness of the EIA procedure relies upon high-quality EIA Reports that can be properly reviewed and evaluated by competent experts and which can contribute to sound decision-making. In order for this to be possible, the competent experts must be involved in both the preparation and in the review of the EIA Report.

A high-quality EIA Report must be prepared by competent experts, experts who understand the relevant legislation and technical parameters involved in carrying out an effective assessment and in the preparation of a high-quality report. In turn, the Competent Authority responsible for evaluating the report must have access to sufficient expertise to judge its quality and request revisions as appropriate. This section covers the legislative requirements and changes in place to ensure the quality of the experts and those reviewing the EIA.

Article 5(3) of the EIA Directive refers to the quality of the expertise used to carry out the EIA report and the need for sufficient information in order for the Competent Authority to reach a conclusion about the Project's effects on the environment. The text is given in the box below.

Box 42: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 5(3)

In order to ensure the completeness and quality of the environmental impact assessment report:

- (a) the developer shall ensure that the environmental impact assessment report is prepared by competent experts;
- (b) the competent authority shall ensure that it has, or has access as necessary to, sufficient expertise to examine the environmental impact assessment report; and
- (c) where necessary, the competent authority shall seek supplementary information from the developer, in accordance with Annex IV, which is directly relevant to reaching the reasoned conclusion on the project's significant effects on the environment.

In short, the Directive requires the following:

- the Developer needs to ensure the quality of the experts who prepare the EIA Report;
- the Competent Authority needs to ensure that it has access to the necessary expertise to review and to evaluate the EIA Report; and
- the Competent Authority must be able to request more information, where relevant, from the Developer.

These three aspects are discussed in greater detail in the following sections.

2.2.2 Experts used by Developers

This section examines how experts, used by a Developer to prepare EIA Reports, can be considered to be competent and looks at the different systems used in Member States to ascertain the competence of EIA experts.

Defining 'competent experts' (Developers)

It is important that Developers understand the concept of 'competence', with regards to experts preparing the EIA Report. The EIA Directive does not go into detail, requiring that experts be for instance external consultants instead of in-house experts, rather the Directive simply requires that experts be competent, leaving it up to the interpretation by the Member States concerned.

The original approach proposed during the 2012 review of the EIA Directive was to include the phrase '**accredited** experts' in the amended Directive. Neither the words 'accredited' nor 'qualified' can be found in the operative provisions of the Directive; however, the latter term is included in Recital 33 of the 2014 Directive amending the EIA Directive: '[e]xperts involved in the preparation of environmental impact assessment reports should be qualified and competent…'. The non-specific requirement allows for greater flexibility for the Member States who can choose to establish an accreditation system, increase transparency, or can set out how to define how competences can be measured.

The box below stresses the recent changes brought about by the 2014 amendments relating to the competency of experts.

Box 43: In practice – 2014 amendments to the competency of experts

In most cases, the changes will not have much effect on those carrying out the EIA:

- At least 14 Member States already use accredited consultants;
- A large majority of Developers already hire specialist consultants who can be considered to be competent.

The new provisions provide a more formal check on the EIA Report:

- Experts must be proven to be competent, especially if the EIA is contested afterwards;
- Developers need to consider more seriously how they demonstrate the competence of those who prepare the EIA Report, and look to external expertise where required even if the costs incurred are higher.

Finding competent experts (Developer)

Different approaches to ensuring the competence of the experts engaged by Developers to prepare EIA Reports can be taken. Some of the examples listed directly below are discussed in greater detail in this section:

- Developers use a centralised list/standardised qualification to determine competence;
- Developers use experts from recognised institutions;
- Developers use experience of practitioners as a measure of competence;
- Developers use a more flexible approach, where transparency allows competence to be scrutinised easily.

These approaches to verifying competence can be used in isolation; however, a combination of these approaches can also be used. For instance, a list of accredited experts may be used and experts are then picked from that list on the basis of their experience or institutional affiliation. Choosing between one or several of the different approaches is important, and careful consideration should be given in implementing different approaches, as seen in the box below.

Box 44: Examples of the different approaches used in Poland to determine competent experts since the 1980s

Poland has employed several approaches to determine 'competent experts' since the 1980s (N.B. a form of EIA was undertaken early on in this country, before to their accession to the EU).

- A system of listing 'qualified' experts was set up, but in practice it did not work as expected and ended up being considered to be counterproductive. In addition, the list was set up at the national level, whereas most EIAs are done at a regional, decentralised level. The approach was, subsequently, abandoned.
- In Poland, the National Environmental Impact Assessment Commission has been functioning for years. It is an opinion-giving and advisory body of the General Director for Environmental Protection. The main task of the

National Commission is to provide opinions on complex EIA matters and cases. There are also Regional EIA Committees, which act as advisory bodies for regional directors for environmental protection. The EIA Commission also takes part in proceedings where there are complex environmental issues.

- More recently, a more flexible approach has been adopted. National legislation sets criteria for experts requiring higher education (in various relevant fields including ecology, biology, etc.) and five years of proven experience doing EIAs under the supervision of more senior experts. Transparency also plays a considerable role, given that all of the Reports are to be made publicly available and in a formal register where anyone can challenge the study's accuracy (either formally or through public scrutiny).

Many Member States do have such approaches in place that allow for the discovery of EIA experts and to verify their competence. Developers hiring these experts should, therefore, check whether these accreditation systems are available to help them to ensure that any external experts they employ for the preparation of the EIA Reports have been duly certified. It should be noted that what makes an expert 'qualified' or indeed 'competent' may vary between different Member States.

- Qualification and/or centralised list

This approach requires experts who wish to prepare EIA Reports to undertake specialist training, either through a university or through another standardised provider, in order to ensure that they have the necessary skills. Once qualified through this procedure, experts can then join a central list held at the national or local levels or by the Developers themselves.

Box 45: Benefits and drawbacks of accreditation and listing

Benefits	Drawbacks
■ Experts have same minimum level of knowledge as peers; ■ Suitability checked using application criteria; ■ Developers can easily find suitable experts; ■ Added transparency to the process of selecting experts.	■ Limits the use of specialist experts not on the list; ■ False sense of security (especially where there is no way to check previous performance or no transparency regarding how people join the list, e.g. by paying a fee); ■ List must be updated regularly; ■ List must possess enough experts with a knowledge of each local level and each type of impact.

Examples of this approach exist in Belgium, where only accredited persons can be designated as EIA Report authors (*agrément des auteurs d'études d'incidences*) in the Walloon Region and in the Brussels Capital Region. The implementation of this approach in both Regions is briefly presented in the box below.

Box 46: An example of accreditation procedures: Walloon and Brussels-Capital Regions of Belgium

	Walloon Region	Brussels Capital Region
Date system first instituted	1985	1992
Framework	Single legislation (Walloon Code of Environment, Article R.58 and following), but several accreditations are required, depending on the type of Project (e.g. industrial, civil engineering, urbanism)	Different legislation and provisions depending on the Project's nature
Issuance	Walloon Minister responsible for urban and rural planning Publication in Official Journal (*Moniteur Belge*)	Brussels Government in Council Annual publication of the list of accredited individuals/companies in Official Journal (*Moniteur Belge*)
Validity	5 years (maximum), renewable with the relaunch of the procedure	15 years (maximum), renewable with the relaunch of the procedure

Changes	Holder of authorisation must notify the authority in case of changes made to the situation which might impact of one of the authorisations	
Sanctions	Temporary or permanent withdrawal under different circumstances: ■ disrespect of the Walloon Code of Environment ■ after prior warning and where a developed Project does 'not seem consistent with the rules of art' or is of a 'poor quality'. Prior warning can be triggered by different environmental administrations.	Temporary or permanent withdrawal under different circumstances: ■ the approval holder no longer meets the conditions for approval ■ the approval holder no longer has sufficient technical means at its disposal ■ after prior warning, if a Project developed is of 'unsatisfactory quality'

- Recognised institutions

Another similar approach to ensuring the demonstrable quality of experts is to pre-qualify the institutions from which they are supplied. The experts themselves may not hold the necessary qualifications or experience, but could work under the authority of their institution, which may be a university (or a specific department thereof) or a consultancy specialising in the field of impact assessment. This places a lot of trust in the institution to ensure that the expert is competent, given that having seen the expert work on other Projects, the recognised institution would be in a good position to vouch for the expert. The institution has its own name and reputation to uphold and is, therefore, incentivised to provide good quality work.

- Experience

Basing competence on experience would require experts to demonstrate their experience working on EIAs when being selected for the role of preparing the EIA Report, regardless of their formal qualifications. As time goes by, experts will gain more and more experience and, thus, the quality of the work they do will increase. Experience can be judged both on a set of criteria or on a case-by-case approach and should be demonstrable in case the quality of the EIA Report is questioned thereafter.

- Transparency

Selecting and verifying experts through a more ad hoc, transparent process allows for greater flexibility on the part of the Developers, given that it does not require a prescribed method for measuring competence. Instead, regardless of how experts are selected, the names and CVs of all of the consultants are included in the final report, and the reason(s) for employing them is clearly detailed. Competence can, therefore, be checked and scrutinised by the public and by the Competent Authority.

2.2.3 Quality control by Competent Authorities

Just as Developers need to ensure that the EIA Report is prepared by competent experts, authorities also need to be able to demonstrate that they have sufficient experts to examine and evaluate EIA Reports. Different approaches are adopted for this across the EU Member States.

Defining 'sufficient expertise' (Competent Authorities)

Article 5(3) of the EIA Directive requires that the Competent Authorities have access to the necessary expertise required to accurately assess an EIA Report. Recital 33 of the EIA Directive states that: 'Sufficient expertise, in the relevant field of the Project concerned, is required for the purpose of its examination by the component authorities in order to ensure that the information provided by the Developer is complete and of a high level of quality.' The Competent Authority needs to check the

structure and logic of the EIA Report, as well as the overall quality of the data, judgements, and conclusions presented.

Competent Authorities can have expertise in-house or can access this expertise through external channels. In some Member States, where EIAs have been carried out for decades, those reviewing EIA Reports, in particular those within the Competent Authorities, have years of experience and they can, thus, be considered to be experts. In some cases, EU Cohesion Policy funds, including technical assistance available from the European Reconstruction Development Fund or training activities under the European Social Fund, may be available to support training for both authorities and for other stakeholders. Where expertise is not available in-house, research institutes and professional bodies may be asked to undertake reviews. In some Member States, a review body may be available to undertake the review (see box 47 below) [15].

Box 47: In practice – 2014 amendments on the expertise of Competent Authorities

In most cases, the changes will not have much of an effect on those examining the EIA Report:

- The Competent Authorities reviewing large number of EIAs already have the necessary expertise;
- Some Member States have already set up diverse review system mechanisms, including independent review bodies or inter-institutional platforms (see the box below presenting the systems in Cyprus, France, Italy, and the Netherlands).

The new provisions in Article 5(3)b require authorities to be able to demonstrate their experience:

- Experts must be proven to be competent;
- Where no suitable expert is available in-house, external experts should be used.

Finding sufficient expertise (Competent Authorities)

Competent Authorities can take various approaches to ensuring that they have access to the expertise necessary to examine EIA Reports, where this is not available in-house. If individual experts are contracted on a case-by-case basis, many of the approaches adopted by Developers in the past, detailed above, can also be used to find competent experts to carry out a review of the EIA Report on behalf of the Competent Authority. Another possible option is for Member States to set up a dedicated independent review body, a body which is always available to provide insight into the evaluation of EIA Reports.

Under Article 5(3)(c), the Competent Authority can request any supplementary information that it requires from the Developer before reaching its decision, as long as the information is directly relevant to reaching the Reasoned Conclusion. Competent Authorities need to ensure that the additional information that they request can be clearly linked to the decision-making process, and is not merely precautionary in nature.

Several Member States ensure that all authorities have access to sufficient expertise to review EIA Reports through the establishment of institutions to serve this purpose. These vary in composition, size, as well as their links to authorities.

[15] Examples of independent review bodies can be found in the Netherlands (Netherlands Commission for Environmental Assessment), France (*Conseil General de l'Environnement et du Développement Durable*; General Council of Environmental and Sustainable Development), and Italy (*Instituto Superiore per la Protezione e Ricerca Ambientale*; Superior Institute for Environmental Protection and Research).

In some Member States these can be considered to be independent: in the Netherlands, a Commission is appointed by the minister whose exclusive role is to maintain a pool of approximately 300 experts who are then responsible for providing opinions on EIAs. In France, the review body is made up of nine evaluation specialists, stemming from the Ministry of the Environment directly, as well as six external qualified experts.

Other Member States opted for mechanisms closer to that of an inter-institutional platform (which may include members of the civil society). For instance, in Cyprus, ten members comprise the EIA Committee, including representatives of different ministries, the chamber of engineers, the federation of environmental organisations, and two qualified experts. The box below presents four examples in greater detail.

Box 48: Examples of quality review in Cyprus, France, Italy and the Netherlands

Member State and body	**Cyprus** EIA Committee (Επιτροπή Εκτίμησης Περιβαλλοντικών Επιπτώσεων)[16]	**France** General Council of Environment and Sustainable Development (CGEDD) acting as Environmental Authority[17]	**Italy** Technical Commission for environmental impact assessment[18]	**Netherlands** Netherlands Commission for Environmental Assessment (NCEA)
Proximity to EIA procedure	Integrated into the EIA procedure	Integrated into the EIA procedure	Integrated into the EIA procedure	Integrated into the EIA procedure
Degree of involvement	■ responsible for EIA Screening ■ examines the content of each EIA Report ■ consults the Competent Authority with regard to any EIA issues	Acts as Competent Authority for certain Projects (and all plans and programmes, cf. SEA). Oversees the EIA process: ■ responsible for EIA Scoping ■ issues an opinion on the quality of the EIA Report	Acts as an advisory body: ■ upon request ■ checks the applicability of exclusion conditions during the Screening stage ■ checks compliance with the requirements contained in the EIA decision ■ advises on the interpretation and application of the EIA decision ■ advises during the Scoping stage.	During or after preparation of the EIA Report: ■ responsible for Scoping of the EIA; ■ interim recommendation can be submitted if requested; ■ checks whether the EIA contains all of the necessary information once drafted.
Time taken for review		Opinion on the EIA Report issued within 3 months This opinion is published before the EIA Report is submitted to public consultations.	Opinion on EIA decision by 60 days after the start of the procedure (30 days to ask for additional documents if deemed necessary). No other specific timelines set.	Opinion on the EIA Report issued within 6 – 9 weeks.

[16] The creation of the Committee is provided under Article 5 of the main law on EIA (Law 140(I)/2005 – as amended).

[17] Autorité environnementale du Conseil général de l'Environnement et du Développement durable [redacted]

[18] The functioning and the organization of the Commission are established by Ministerial Decree GAB/DEC/150/07 of 18 July 2007.

Experts	The Committee is composed of ten members, including six administrators, and four civil society representative.	Nine qualified evaluation specialists from the Ministry of the Environment and six external qualified experts. Maintains a pool of relevant experts.	The Commission is composed of 50 members with adequate technical qualifications in environmental matters appointed by the Ministry of Environment.	Members of the commission are appointment by ministers. The commission maintains a pool/list of circa 300 relevant experts from the fields of industry, universities, government agencies or related groups.
Expert appointment on specific EIAs	The Committee can appoint special technical committees to examine specialised environmental issues that may arise during the examination of an EIA study.	Experts assigned according to relevance of expertise and availability. Each opinion adopted after review by all experts.		Assigned according to the relevance of expertise.
Nature of decision	Opinions are not binding and in certain cases the Committee only acts when consulted.	Opinions are not binding; however, they contain recommendations and are included in the documents for public consultation. Moreover, judges can rely on them in litigation.	Opinions are not binding and, in certain cases, the Commission only acts when requested (see row above on degree of involvement).	Opinions are not binding.

2.2.4 The competence of expertise and quality control: in a nutshell

The Directive requires that the EIA Report shall be prepared by competent experts:

- Where previously Developers were not formally obliged to use competent experts to prepare EIA Reports, they are now required to ensure that the EIA Reports are prepared by such experts;
- Many Member States have adopted systems to ensure that the EIA Report is prepared by competent experts, and Developers will have to comply with these requirements when selecting experts. These include accreditation systems and lists of pre-qualified experts or institutions.

The Directive requires that Competent Authorities have sufficient expertise to review an EIA Report:

- Several Member States already have systems in place, including the establishment of an independent review body. The functions of these bodies vary between Member States and Developers and Competent Authorities will need to check national provisions.
- The Competent Authorities should hire external experts if they do not have access to such experts internally, regardless of whether a formal review body is in place.
- Additional information can be requested by the Competent Authority, as long as the information is directly relevant to reaching a Reasoned Conclusion.

3 CONSULTATIONS AND DECISION-MAKING

The EIA Report is ultimately an informative decision-making tool: once it has been prepared by the Developer, it has to be examined by the public and various concerned authorities. This section sheds light on how these procedures are carried out, given that they are relevant to those gathering the information during the preparation of the EIA Report. It looks at the requirements of the EIA Directive with regards to public consultation and the role of EIA in the decision on Development Consent, including a discussion on time-frames applicable to both cases.

3.1 CONSULTATIONS ON THE EIA REPORT

Consultation procedures are often highly detailed in national legislation, and also fall under international legislation (Aarhus and Espoo Conventions – see the Annex to this Guidance Document on Links with Other EU Instruments). Practitioners must, therefore, consult all relevant national legislation and guidance. This guidance document provides an overview of consultation requirements and, in particular, of applicable time-frames as they impact on those preparing the EIA Report.

3.1.1 Legislative requirements for consultations

Articles 6 and 7 of the EIA Directive are the main provisions of the EIA Directive on consultations. A number of other provisions scattered throughout the Directive are also relevant: e.g. Article 4(5) on the Screening stage or Article 5(2) on the Scoping stage (see the Screening Guidance Documents and the Scoping Guidance Document of this series for more information).

Together, these provisions outline (i) what information is to be provided to the consultees, (ii) who is to be consulted during the EIA process, and (iii) lays out some minimum standards to ensure that this is done effectively (distinguishing information and participation, and setting time-frames). Furthermore, it should be borne in mind that Article 8 of the EIA Directive requires the results of these consultations to be duly taken into account in the Development Consent procedure (see the decision-making section below).

Box 49: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 6 (extracts)

(1) Member States shall take the measures necessary to ensure that the authorities likely to be concerned by the project by reason of their specific environmental responsibilities or local and regional competences are given an opportunity to express their opinion on the information supplied by the developer and on the request for development consent, taking into account, where appropriate, the cases referred to in Article 8a(3). To that end, Member States shall designate the authorities to be consulted, either in general terms or on a case-by-case basis. The information gathered pursuant to Article 5 shall be forwarded to those authorities. Detailed arrangements for consultation shall be laid down by the Member States.

(2) In order to ensure the effective participation of the public concerned in the decision-making procedures, the public shall be informed electronically and by public notices or by other appropriate means, of the following matters early in the environmental decision-making procedures referred to in Article 2(2) and, at the latest, as soon as information can reasonably be provided:

- (e) an indication of the availability of the information gathered pursuant to Article 5;

(3) Member States shall ensure that, within reasonable time-frames, the following is made available to the public concerned:

- (a) any information gathered pursuant to Article 5;

(4) The public concerned shall be given early and effective opportunities to participate in the environmental decision-making procedures referred to in Article 2(2) and shall, for that purpose, be entitled to express comments and opinions when all options are open to the competent authority or authorities before the decision on the request for development consent is taken.

(6) Reasonable time-frames for the different phases shall be provided for, allowing sufficient time for:

- (a) informing the authorities referred to in paragraph 1 and the public; and
- (b) the authorities referred to in paragraph 1 and the public concerned to prepare and participate effectively in the environmental decision-making, subject to the provisions of this Article.

(7) The time-frames for consulting the public concerned on the environmental impact assessment report referred to in Article 5(1) shall not be shorter than 30 days.

Article 7

(1) Where a Member State is aware that a project is likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests, the Member State in whose territory the project is intended to be carried out shall send to the affected Member State as soon as possible and no later than when informing its own public, inter alia:

- (a) a description of the project, together with any available information on its possible transboundary impact;
- (b) information on the nature of the decision which may be taken.

The Member State in whose territory the project is intended to be carried out shall give the other Member State a reasonable time in which to indicate whether it wishes to participate in the environmental decision-making procedures referred to in Article 2(2), and may include the information referred to in paragraph 2 of this Article.

Groups to be consulted

In accordance with these provisions, consultations on different information should take place with different groups:

- public authorities likely to be concerned (Article 6(1) of the EIA Directive):

Authorities likely to be concerned by the Project, due to specific environmental responsibilities or local/regional competencies, must be given an opportunity to express their opinion on the information supplied by the Developer, and on the Development Consent. Authorities can be identified either in general terms or on a case-by-case basis, and shall be given an opportunity to express their opinion on the information supplied by the Developer and on the request for Development Consent. Exactly how this is to be done is to be laid down by the Member States.

- the public concerned (Article 6(2), 6(3), 6(4) of the EIA Directive):

The public and the public concerned must have access to any information gathered during the preparation of the EIA Report, the reactions of the Competent Authority/Authorities at the time the information is made available, and any other relevant information which may arise later. The public concerned must be given early and effective opportunities to participate, and be able to provide their comments and opinions. Exactly how this is done is up to Member States to decide, although the EIA Directive does set out several provisions, including mandating what information should be available to the public. This information includes the EIA Report itself.

- relevant parties in affected other Member States (Article 7 of the EIA Directive):

If a Project is likely to cause significant environmental effects in another Member State, or if another Member State so requests, then transboundary consultations must be carried out. The Member State in whose territory the Project will be carried out will send the affected Member State a description of the Project (including any information on the likely transboundary impacts) and information about the nature of the decision which may be taken. The Member State affected must be given a reasonable period of time in which to indicate whether or not it will participate in decision-making procedures; if the Member State affected indicates that it will participate, then the authorities and the public in the Member State affected must be informed and given the opportunity to forward their opinion before the Development Consent is granted. These consultations may be conducted through an appropriate joint body, and some Member States may have national legislation which may lay out additional requirements.

Minimum standards for effective consultation

Consultations include two main elements:

- informing the consultees; and
- giving consultees, whether the public or public authorities, time to prepare and participate effectively in the environmental decision-making.

In addition, requirements on time-frames are provided in relation to consultations. The following time-frames are required by the Directive:

- an explicit time-frame is provided by the Directive in Article 6(7) whereby a minimum of thirty days is required for public consultation;
- no other minimum or maximum is provided, yet Article 6(6) of the EIA Directive requests that 'reasonable time-frames' are provided for consultations of public authorities and the public. This notion is further reiterated throughout the different paragraphs of Article 6, as well as in Article 7 in relation to transboundary consultations. The concept of reasonable time-frames is explored in the section below.

Some of the requirements detailed above were included in the EIA Directive in 2014 and are summarised in the box below.

Box 50: In practice – 2014 amendments on consultations

The 2014 amendments included significant changes to consultations and highlighted time-frames concerning consultations:

- The Directive now differentiates between information and participation;
- The provisions on public consultation require 'reasonable time-frames' for each of the different phases of consultation with regard to both the public and public authorities;
- A minimum of 30 days for public consultation is required. The Directive expressly refers to local or regional authorities as authorities likely to be concerned;
- The Directive now envisages information on public consultation to be made electronically available.

3.1.2 Consultations and 'reasonable time-frames'

The Developers and practitioners preparing EIA Reports need to be aware that information needs to be shared with relevant parties in a timely manner, which may be determined by national legislation specifically or by agreement with the relevant authorities more generally. Methods for disseminating the information are also left up to Member States; however, it is worth noting that the EIA Directive specifically envisages the electronic availability of information. In any case, clearly defined methods of dissemination, as well as time-frames, can enhance administrative certainty, prevent delays, and provide certainty that different steps in the EIA process will occur within a certain period of time.

Reasonable time-frames in EU Law

- Explanation of the use of the term 'reasonable' by the EIA Directive

Pursuant to the principle of subsidiarity, the EIA Directive leaves the precise determination of the time-frames applicable to consultations to Member States. Indeed, as is demonstrated in the box below, Projects requiring an EIA differ in size, scale, location and complexity, and therefore setting standard and explicit time limits applicable to all Projects for the different stages, may not be considered to be appropriate.

Box 51: Understanding the concept of 'reasonable' with regard to timing in the EIA procedure

- Recital 36 of the 2014 Directive amending the EIA Directive

'Member States should ensure that the various steps of the environmental impact assessment of Projects are carried out within a reasonable period of time, depending on the nature, complexity, location and size of the Project'

- Average duration of the EIA process

The average duration of an EIA procedure was estimated to be 11.3 months but figures range from 5 to 27 months. The average time taken to reach the final EIA decision after completion of the consultations was 2 months.

Source - GHK (2010), Collection of information and data to support the IA study of the review of the EIA Directive.

- Compliance Committee of the Aarhus Convention: Lithuania ACCC/2006/16; ECE/MP.PP/2008/5/Add.6, 4 April 2008, para. 69

'A time frame which may be reasonable for a small simple Project with only local impact may well not be reasonable in case of a major complex Project.'

- Defining reasonable time-frames in application of the EIA Directive

Article 6 of the EIA Directive makes several references to reasonable time-frames when it comes to carrying out public and other concerned authority consultations. In addition, Article 6(7) explicitly gives 30 days as the minimum amount of time for consulting the public on the EIA Report.

This concept of reasonable time-frames, with regards to public consultations, is widely covered by other documents on the subject, those concerning the Aarhus Convention in particular, as shown in the box below on case law. This guidance document can be used as an indication to establish time-frames applicable to the EIA procedure (see also the Annex to this Guidance Document on Other Relevant Guidance and Tools).

Box 52: Reasonable time-frames for public participation in case-law of the Aarhus Convention Compliance Committee

- Sufficient time-frame:

Case Law of the Aarhus Convention Compliance Committee determines that a total of 90 days, including 45 days to inspect the relevant information and prepare, plus a subsequent 45 days to comment, is sufficient.

- Insufficient time-frame:

Case Law of the Aarhus Convention Compliance Committee found that 10 working days, to inspect relevant information and to prepare to participate in decision-making, cannot be considered to be reasonable.

A. Andrusevych, T. Alge, C. Konrad (eds), Case Law of the Aarhus Convention Compliance Committee 2004-2011, 2nd edition, pages 44-45.

With regards to transboundary consultations, Article 7 addresses how Member States should approach EIAs for Projects that are likely to have significant effects on the environment in another Member State. Again, the word 'reasonable' is used when referring to the time at which information is to be shared with the public or concerned authorities. In addition, Article 7(5) states that time-frames should be determined based on those set out in Article 6. Here, the guidance materials developed concerning the Espoo Convention could support the interpretation and implementation of the EIA Directive in this context.

Practitioners developing the EIA Report should familiarise themselves with these Articles and national legislation in order to reduce delays and improve administrative certainty. At any rate, it should be noted that informing the affected Member State must be done at the latest when informing the public within the Member State where the Project takes place.

- Time-frames and streamlining environmental assessments across EU instruments

Projects are often subject to several environmental assessment procedures, including the EIA. Article 2(3) of the EIA Directive requires either a coordinated or joint procedure for Projects falling under the scope of both the EIA and the Birds/Habitats Directives. In addition, this Article encourages the use of coordinated procedures when assessments of the effects on the environment arise from the EIA and other EU legislation (for more information see the Annex to this Guidance Document on Links with Other EU Instruments). Joint or coordinated procedures for other EU environmental assessments can reduce overlapping procedures, which can then lead to unnecessary delays, discrepancies, and administrative uncertainty. Time-frames play an important role in the successful coordination or joint procedures, given that defined time-frames can help align procedures which may be headed by different parties.

The European Commission Guidance Document on streamlining environmental assessments conducted under Article 2(3) of the EIA Directive provides advice about how to manage different environmental assessments in the context of joint and/or coordinated procedures, and should be read in conjunction with this guidance document. In addition, other regulations may dictate the structure of the time-frames. The Trans-European Networks-Energy Regulation (see the Annex to this Guidance Document on Links with Other EU Instruments), for example, gives three and a half years as a binding time limit for the overall permit granting process (i.e. delivering the Development Consent decision) for relevant Projects. The European Commission has also issued a Guidance Document on streamlining environmental assessments within the context of the TEN-R Regulation (see the Annex to this Guidance Document on Other Relevant Guidance and Tools).

Box 53: Other relevant EU Guidance

Commission Guidance on streamlining environmental assessments for energy infrastructure Projects PCIs (Streamlining Guidance) July 2013

Commission guidance document on streamlining environmental assessments conducted under Article 2(3) of the Environmental Impact Assessment Directive (Directive 2011/92/EU of the European Parliament and of the Council, as amended by Directive 2014/52/EU) (2016/C 273/01)

Implementing reasonable time-frames in the national context

While they are not established at the EU level, explicit time-frames, with minimum and/or maximum limits, may be set out either by Member States in national legislation or by the Competent Authorities on a case-by-case basis.

In any case, if time-frames are set-out, Recital 36 of the 2014 Directive amending the EIA Directive indicates that they ought:

- to stimulate more efficient decision-making and increase legal certainty; and
- not to affect the achievement of the objective of the Directive which is to ensure a high level of protection of the environment and of human health.

The following box provides a few tips on setting reasonable time-frames for EIAs.

Box 54: Tips for setting explicit time-frames

- Time-frames should be proportionate to the nature, complexity, location and size of the Project.
- Time-frames should be clearly defined.
- Time-frames should be flexible enough to adjust to extenuating circumstances.
- Time-frames should aim to reduce unnecessary delays in assessment procedures and increase administrative certainty.
- Time-frames should in no way lower the quality of the environmental assessments performed.

3.1.3 Consultations: in a nutshell

- The EIA Directive requires consultations with three different groups on the content of the EIA Report: the public concerned must always be consulted; public authorities must be consulted when they are likely to be concerned; and other Member States for Projects with transboundary impacts.
- Consultations include both the provision of information and the possibility to effectively prepare and participate in decision-making.
- The Directive sets out an explicit minimum time-frame for public consultations on the EIA Report (at least 30 days).
- In other cases, the Directive refers to reasonable time-frames. The notion of reasonable time-frames should be refined at the national level, depending on the Project at hand, in order to enhance administrative certainty and to reduce delays.

3.2 DECISION-MAKING: REASONED CONCLUSION AND DEVELOPMENT CONSENT

3.2.1 Legislative requirements on decision-making

The definition of the EIA in Article 1 of the Directive refers to:

- a Reasoned Conclusion, essentially the decision of the Competent Authority on the environmental impacts of the Project based on the EIA Report and on other relevant information, including information received through the consultations;
- the incorporation of the Reasoned Conclusion in the Project's Development Consent, i.e. in the decision that either grants or refuses permission to carry out a Project.

Article 8 of the Directive also requires that, in order to make the Development Consent decision, the Competent Authority takes the results of consultations duly into account.

Box 55: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 1(2)(g)(iii), (iv) and (v)

For the purposes of this Directive, the following definitions shall apply:

(g) 'environmental impact assessment' means a process consisting of:

- (iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;
- (iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination;
- (v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a.

Article 8

The results of consultations and the information gathered pursuant to Articles 5 to 7 shall be duly taken into account in the development consent procedure.

Article 8a(1)

1. The decision to grant development consent shall incorporate the following information:

- (a) the reasoned conclusion referred to in Article 1(2)(g)(iv);
- (b) any environmental conditions attached to the decision, a description of any features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment as well as, where appropriate, monitoring measures.

Article 8a(2)

(2) The decision to refuse development consent shall state the main reasons for the refusal.

Article 8a(6)

(6) The competent authority shall be satisfied that the reasoned conclusion, referred to in Article 1(2)(g)(iv), or any of the decisions referred to in paragraph 3 of this Article, is still up to date when taking a decision to grant development consent. To that effect, Member States may set time-frames for the validity of the reasoned conclusion referred to in Article 1(2) (g) (iv) or any of the decisions referred to in paragraph 3 of this Article.

Articles on decision-making ensure that a clear justification of the reasons and the conditions associated with the decision to grant (or refuse) Development Consent are provided and that environmental conditions stemming from the EIA decision are not sidelined when making the Development Consent decision. Thus, the aim is to ensure that the EIA process has informed the decision-making process, and that a high level of environmental protection can be guaranteed once the Project is implemented and operating.

Box 56: In practice – 2014 amendments on decision-making

The amendments of the different articles seek to strengthen decision-making in two ways; firstly, with regards to obtaining more formal and transparent justification of decision-making:

- Article 8 includes the words 'duly into account', thereby seeking to ensure that environmental considerations and the opinions of the public consulted are not side-lined when issuing Development Consent decisions;
- Article 8a(1) requires the integration of different elements into the Development Consent decision (e.g. Reasoned Conclusion, environmental conditions, Monitoring Measures);
- Article 8a(2) requires the justification of decisions to refuse Development Consent.

Secondly, the amendments seek to ensure that that environmental considerations remain under scrutiny during the actual Project construction phase and/or operational phase, as well as in any subsequent permitting procedures:

- Article 8a(1) requires the integration of different elements into the Development Consent decision (e.g. Reasoned Conclusion, environmental conditions, Monitoring Measures);
- Article 8a (6) requires that the Competent Authority checks that the Reasoned Conclusion is up-to-date.

3.2.2 Reasoned Conclusion

This section addresses the duties of the Competent Authority that adopts Reasoned Conclusions, and explains the two different systems envisaged by the EIA Directive that may be used in the Member States in relation to the adoption of a Reasoned Conclusion.

An assessment obligation for the Competent Authority

Article 1(2)(g) of the EIA Directive (introduced by the 2014 amendments), which defines the EIA process, uses the term 'examination' several times in relation to the tasks carried out by the Competent Authority adopting the Reasoned Conclusion. As discussed below, this term requires that the Reasoned Conclusion be the direct outcome of an obligation, on the Competent Authority's part, to assess the Project's significant effects. The Competent Authority must, therefore, not simply rely on the Developer's assessment and compile the information gathered through the consultations, but must also carry out its own separate assessment of the Project's significant effects.

Box 57: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 1(2)(g)(iii) and (iv)

- (iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;

- (iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination;

The terminology 'examine' is used in a 2011 ruling of the Court of Justice of the European Union (CJEU). In this judgement, the Court ruled that Article 3 of the EIA Directive is a fundamental provision that should guide the whole EIA process. This provision requires the EIA process to not only identify and describe, but also to *assess*, the direct and indirect effects of the Project. This assessment, the Court ruled, involves an *examination* by the Competent Authority of both the information supplied in the EIA Report and of the results of the consultations.

A few key statements from the Court ruling in question are reproduced in the box below.

Box 58: CJEU, C-50/09, *Commission v. Ireland*

40 … Indeed, that assessment, which must be carried out before the decision-making process (…), involves an examination of the substance of the information gathered as well as a consideration of the expediency of supplementing it, if appropriate, with additional data. That competent environmental authority must thus undertake both an investigation and an analysis to reach as complete an assessment as possible of the direct and indirect effects of the Project concerned on the factors set out in the first three indents of Article 3 and the interaction between those factors.

41 […] Article 3 is a fundamental provision.

44. […] namely that of taking the results of the consultations and the information gathered for the purposes of the consent procedure into consideration. That obligation does not correspond to the broader one, imposed by Article 3 of Directive 85/337 on the competent environmental authority, to carry out itself an environmental impact assessment in the light of the factors set out in that provision.

The content of the Reasoned Conclusion

As described above, the Competent Authority must examine the information provided in the EIA Report, as well as the results of the consultations and, where appropriate, must request any supplementary information. The Reasoned Conclusion, as the direct outcome of this assessment, should detail these examinations.

The following box provides a few tips about how to develop a good Reasoned Conclusion.

Box 59: Tips for developing the Reasoned Conclusion

- Examine and justify the different tools and methods used during the preparation of the EIA Report, and subsequent consultations.
- Examine the information and data provided in the EIA Report and during consultations. Key messages of the Baseline conditions, significant effects, predicted impacts of the Project, suggested Monitoring and Mitigating Measures, and other relevant information should be highlighted.
- Clearly discuss the evidence with a view to reaching a conclusion, allowing for any additional arguments which may arise.
- State clearly what the Reasoned Conclusion is and the arguments on which it relies.
- Define a programme to mitigate and monitor the effects of the Project (in case significant adverse effects would be caused).

Two different systems of adopting Reasoned Conclusion and granting the Development Consent

Article 8a (1) deals with the decision to grant Development Consent, and reiterates the necessity for this decision to incorporate several elements, including the Reasoned Conclusion and Monitoring Measures (see also the section on monitoring).

In relation to this point, the EIA Directive allows for the existence of different EIA systems in the Member States as provided for under Article 2(2) of the Directive (see box below).

Box 60: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 2(2)

2. The environmental impact assessment may be integrated into the existing procedures for development consent to projects in the Member States, or, failing this, into other procedures or into procedures to be established to comply with the aims of this Directive.

The underlying idea, presented under Recital 21 of the 2014 Directive amending the EIA Directive, is that 'the Reasoned Conclusion […] may be part of an integrated Development Consent procedure or may be incorporated in another binding decision'. There are two main systems existing in the EU with regards to the implementation of the EIA Directive. These two systems can be described as, on the one hand, a separate EIA procedure, and an integrated procedure where the EIA is one of the assessments carried out in view to reach a decision on Development Consent on the other.

- The integrated procedure

The integrated procedure system consists of an EIA procedure carried out in parallel with other assessments in view of reaching a decision for Development Consent. The Reasoned Conclusion, as such, forms part of the final decision on the Project's Development Consent.

- The separate EIA procedure

Under the separate EIA procedure, the Reasoned Conclusion is adopted via a decision procedure that is separate from the one undertaken to grant Development Consent. In this case, the environmental conditions set out in the Reasoned Conclusion are binding. The requirement of Article 8a(1) of the EIA Directive ensures that the environmental conditions set out in the Reasoned Conclusion are included later on in the Development Consent decision. As the conditions set in the Reasoned Conclusion on the EIA are binding, they should be followed when the Development Consent is adopted.

3.2.3 Time-frames concerning decision-making

The obligation of reasonable time-frames in decision-making

Article 8a(5) of the EIA Directive concerns the time-frames set in which the decisions taken during the EIA process must be made.

Box 61: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 8a(5)

5. Member States shall ensure that the competent authority takes any of the decisions referred to in paragraphs 1 to 3 within a reasonable period of time.

This Article prescribes an overall obligation of 'a reasonable period of time'. This obligation is applicable not as a whole, but to different decisions, including inter alia the Reasoned Conclusion as well as the Development Consent decisions. There is no precise indication in the Directive about how long the reasonable period of time should be, and Developers should be aware that specific time-frames may be set out in national legislation or be applicable from other legislation (e.g. the TEN-E Regulation).

The time taken by the authorities to issue their decisions on the Development Consent can generate significant uncertainty and delays for the Developers, which may also lead to additional costs being incurred. Again, ensuring the decisions are taken within a 'reasonable period of time', can contribute to more efficient decision-making and increasing certainty as well as avoiding lengthy EIA procedures.

Time-frames for the validity of Reasoned Conclusion

The EIA Directive requires that the authority, competent for the Development Consent, must ensure that the Reasoned Conclusion is still up-to-date when taking its decision (Article 8a(6)).

Box 62: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 8a(6)

6. The competent authority shall be satisfied that the reasoned conclusion referred to in Article 1(2)(g)(iv), or any of the decisions referred to in paragraph 3 of this Article, is still up to date when taking a decision to grant development consent. To that effect, Member States may set time-frames for the validity of the reasoned conclusion referred to in Article 1(2)(g)(iv) or any of the decisions referred to in paragraph 3 of this Article.

These elements sheds additional light on the overall obligation of 'reasonable period of time' of Article 8a(5). Indeed, in the context of separate EIA procedure, the environmental assessment may have been completed years before a decision on Development Consent can be considered.

Member States in this context may establish time-frames for the validity of Reasoned Conclusion.

Box 63: The validity of Reasoned Conclusion in Croatia

'The Croatian Environmental Protection Act (*Zakon o zaštiti okoliša*) ('O.G.' No 80/13, 153/13 and 78/15) regulates the EIA procedure in Croatia.

Its Article 92 sets the duration of validity of the final EIA decision for up to two years. More specifically, it renders the EIA decision invalid if an operator does not request a permit leading to the construction permit within two years of the date the decision entered into force

The Competent Authority should, in any case, be satisfied that the Reasoned Conclusion is up-to-date, regardless of time-frames that have not yet expired.

Time-frames for informing the public of the Development Consent decision

Once the Development Consent decision has been reached, the public must be informed of its outcome.

Box 64: Directive 2011/92/EU as amended by Directive 2014/52/EU

Article 9(1)

1. When a decision to grant or refuse development consent has been taken, the competent authority or authorities shall promptly inform the public and the authorities referred to in Article 6(1) [...]

The 2014 legislative change of the EIA Directive added the word 'promptly' to Article 9(1) so as to align it with Article 6(9) of the Aarhus Convention which already uses this term. It should be noted that 'promptly' can be interpreted differently from the phrase 'reasonable time-frame' used throughout the EIA Directive. This suggests that there is not a specified maximum period (time-frame) in which action should be taken, but rather that action should be taken as soon as possible[19].

At the Member State level, there may be national time limits established for challenging the decision that must be complied with.

[19] A. Andrusevych, T. Alge, C. Konrad (eds), Case Law of the Aarhus Convention Compliance Committee 2004-2011, 2nd edition, Page 87.

3.2.4 Decision-making on the EIA Report: in a nutshell

- Environmental considerations, and the opinions of the public consulted, shall be taken 'duly into account' during the decision-making steps (both in the Reasoned Conclusion and Development Consent).
- The Reasoned Conclusion is the outcome of an assessment undertaken by the Competent Authority that is separate from the Developer's assessment. It includes an assessment of the information provided in the EIA Report, an assessment of the results of consultations, and, if adequate, the Competent Authority's supplementary assessment and resulting decision on the environmental effects of the Project.
- Across the EU Member States, there are two main systems of adopting reasoned conclusion:
  - Integrated procedure – the Reasoned Conclusion is integrated in the decision on Development Consent;
  - Separated EIA procedure – the Reasoned Conclusion, as a legally binding environmental decision, is adopted pending the issuance of the decision on the Development Consent
- Before taking a decision on the Development Consent, the Competent Authority should check that the Reasoned Conclusion is up-to-date.
- Different elements must be integrated into the Development Consent decision, including the Reasoned Conclusion, environmental conditions, and Monitoring Measures.
- Decisions to refuse Development Consent should be justified.

PART C – THE EIA REPORT CHECKLIST

1 INTRODUCTION

This checklist is designed to support this Guidance Document's users with the preparation and reviewing of an EIA Report. The checklist is intended to be used in conjunction with this Guidance Document; it can be used at multiple stages of the EIA procedure in various ways:

- for planning and guiding the preparation of an EIA Report by Developers or practitioners;
- when reviewing a draft, to ensure that it is complete and complies with all requirements and can be used for consultation or submitted to the Competent Authorities;
- when reviewing if enough information has been provided to allow for the public and stakeholder groups to develop informed opinions and reactions; and
- for authorities to carry out the examination of the EIA Report once it has been submitted.

The checklist is organised into seven sections that follow the order of presentation of the issues under Part B:

- Description of the Project;
- Description of the environment likely to be affected by the Project (including Baseline);
- Description of the Project's likely significant effects;
- Alternatives;
- Description of Mitigation and Compensation Measures;
- Description of Monitoring Measures;
- Quality (presentation, Non-Technical Summary, and quality of experts).

Each section includes a number of questions for consideration. These questions are numbered per question in the first column and are stated in full in the second. The third and fourth columns concern if they are relevant and if they have been adequately addressed respectively. The final column is dedicated to the question of what further information is required.

Some instructions for using the checklist have been provided below, but the checklist has, in essence, been developed as a flexible tool to enable different actors in the EIA procedure to use it at different stages of the procedure.

2 INSTRUCTIONS

Reviewing the relevance of the checklist questions

The checklist has been intentionally designed to cover the wide range of eventual Project situations envisaged by the EIA Directive. It also covers different types of user responsibilities, such as confirming whether or not authorities have access to the necessary expertise. Therefore, the first step in using the checklist is to decide, for each of the questions, whether the question is relevant to:

- the specific Project;
- the stage of the EIA procedure (e.g. planning, draft report completed, final review etc.);
- the user in his/her own capacity (e.g. practitioner preparing the report, Developer reviewing a draft, authority examining a final report).

If the question is relevant, then enter 'Yes' in Column 3. At the end of each of the checklist's sections, consider whether or not there are any special features of the Project that mean that types of information that have not been identified in the checklist that could be relevant and add these to the checklist in the spaces provided.

Assessing the sufficiency of the information provided

For all of the questions that are relevant to the Project and context, the user may then:

- include the point in the planning of the EIA Report; or
- review the EIA Report in more detail and decide whether the particular information identified in the question is provided and is sufficient. If it is complete and sufficient, then enter: 'Yes' in Column 3. If it is not, then enter: 'No'.

In considering whether the information is complete and sufficient the reviewer should consider whether there are any omissions in the information and whether these omissions are vital to the consultation or decision-making processes. If these omissions are not vital, then it may be unnecessary to identify or request further information. This will avoid unnecessary delay to the EIA process. Factors to consider will include:

- Both the legal provisions that apply and the factors that the decision-maker is required to take into account at this stage in the consent process for the Project;
- The Project's scale and complexity and the sensitivity of the receiving environment;
- Whether the environmental issues raised by the Project are high profile;
- The views of the public and consultees about the Project and the degree of controversy.

Indication of necessity for supplementary information

If the answer to a review Question is 'No', consider what further information is required and note this in Column 4.

This situation may arise in a variety of situations, for instance:

- Developers reviewing the EIA Report, prior to submission, may find that the information provided by the EIA practitioners is not sufficient and may request that the practitioners gather

more evidence and analyse it;

- members of the public participating in the consultation procedure may find that the information provided is not complete or is insufficient to allow for their effective participation in the consultation processes. They may indicate this to both the reviewers and the Competent Authority during the consultations. The Competent Authorities intervening in the EIA process must be satisfied that the information provided is sufficient for the purposes of adopting the Reasoned Conclusion and for arriving at a decision on Development Consent.

The user may also wish to make any suggestions about where or how the information might be obtained.

3 THE REVIEW CHECKLIST

SECTION 1 DESCRIPTION OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
The Objectives and Physical Characteristics of the Project				
1.1	Are the Project's objectives and the need for the Project explained?			
1.2	Is the programme for the Project's implementation described, detailing the estimated length of time (e.g. expected start and finish dates) for construction, operation, and decommissioning? (this should include any phases of different activity within the main phases of the Project, extraction phases for mining operations for example)			
1.3	Have all of the Project's main characteristics been described? (for assistance, see the Checklist in Part C of the Scoping Guidance Document in this series)			
1.4	Has the location of each Project component been identified, using maps, plans, and diagrams as necessary?			
1.5	Is the layout of the site (or sites) occupied by the Project described? (including ground levels, buildings, other physical structures, underground works, coastal works, storage facilities, water features, planting, access corridors, boundaries)			
1.6	For linear Projects, have the route corridor, the vertical, and horizontal alignment and any tunnelling and earthworks been described?			
1.7	Have the activities involved in the construction of the Project (including land-use requirements) all been described?			
1.8	Have the activities involved in the Project's operation (including land-use requirements and demolition works) all been described?			
1.9	Have the activities involved in decommissioning the Project all been described? (e.g. closure, dismantling, demolition, clearance, site restoration, site re-use, etc.)			
1.10	Have any additional services, required for the Project, been described? (e.g. transport access, water, sewerage, waste disposal, electricity, telecoms)			
1.11	Are any developments likely to occur as a consequence of the Project identified? (e.g. new housing, roads, water or sewerage infrastructure, aggregate extraction)			
1.12	Have any existing activities that will alter or cease as a consequence of the Project been identified?			

SECTION 1 DESCRIPTION OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
1.13	Have any other existing or planned developments, with which the Project could have cumulative effects, been identified?			
1.14	Has the 'whole Project' been described, e.g. including all associated/ancillary works?			
1.15	Are any activities described as part of the 'whole Project' excluded from the assessment? Are such exclusions justified? (e.g. associated/ancillary activities can be included either because they fall under the scope of the Directive (Annex I or II) or because they can be considered as an integral part of the main infrastructure works using the 'centre of gravity test'. Guidance on associated and ancillary works has been published by the European Commission in an Interpretation Line available at: [redacted]			
The Size of the Project				
1.16	Is the area of land occupied by each of the permanent Project components quantified and shown on a scaled map? (including any associated access arrangements, landscaping, and ancillary facilities)			
1.17	Has the area of land required temporarily for construction been quantified and mapped?			
1.18	Is the reinstatement and after-use of the land occupied temporarily for the operation of the Project described? (e.g. land used for mining or quarrying)			
1.19	Has the size of any structures or other works developed as part of the Project been identified? (e.g. the floor area and height of buildings, the size of excavations, the area or height of planting, the height of structures such as embankments, bridges or chimneys, the flow or depth of water)			
1.20	Has the form and appearance of any structures or other works developed as part of the Project been described? (e.g. the type, finish, and colour of materials, the architectural design of buildings and structures, plant species, ground surfaces, etc.)			
1.21	For urban or similar development Projects, have the numbers and other characteristics of new populations or business communities been described?			
1.22	For Projects involving the displacement of people or businesses, have the numbers and other characteristics of those displaced been described?			

SECTION 1 DESCRIPTION OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
1.23	For new transport infrastructure or Projects that generate substantial traffic flows, has the type, volume, temporal pattern, and geographical distribution of new traffic generated or diverted as a consequence of the Project been described?			
Production Processes and Resources Used				
1.24	Have all of the processes involved in operating the Project been described? (e.g. manufacturing or engineering processes, primary raw material production, agricultural or forestry production methods, extraction processes)			
1.25	Have the types and quantities of outputs produced by the Project been described? (these could be primary or manufactured products, goods such as power or water or services such as homes, transport, retailing, recreation, education, municipal services (water, waste, etc.)			
1.26	Have the types and quantities of resources, e.g. natural resources (including water, land, soil, and biodiversity), raw materials, and energy needed for construction and operation been discussed?			
1.27	Have the environmental implications of the sourcing of resources, e.g. natural resources (including water, land, soil and biodiversity), raw materials, and energy been discussed?			
1.28	Have efficiency and sustainability in use of resources, e.g. natural resources (including water, land, soil and biodiversity), raw materials, and energy been discussed?			
1.29	Have any hazardous materials used, stored, handled or produced by the Project been identified and quantified? • during construction; • during operation; • during decommissioning.			
1.30	Has the transportation of resources, including natural resources (including water, land, soil, and biodiversity) and raw materials to the Project site, and the number of traffic movements involved, been discussed? (including road, rail and sea transport) • during construction; • during operation; • during decommissioning.			

SECTION 1 DESCRIPTION OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
1.31	Have the Project's environmentally relevant social and socio-economic implications been discussed? Will employment be created or lost as a result of the Project, for instance? • during construction; • during operation; • during decommissioning.			
1.32	Have the access arrangements and the number of traffic movements involved in bringing workers and visitors to the Project been estimated? • during construction; • during operation; • during decommissioning.			
1.33	Has the housing and provision of services for any temporary or permanent employees for the Project been discussed? (this is relevant for Projects that require the migration of a substantial, new workforce into the area, either for construction or in the long term)			
Residues and Emissions				
1.34	Have the types and quantities of solid waste generated by the Project been identified? (including the construction or demolition of wastes, surplus spoil, process wastes, by-products, surplus or reject products, hazardous wastes, household or commercial wastes, agricultural or forestry wastes, site clean-up wastes, mining wastes, decommissioning wastes) • during construction; • during operation; • during decommissioning.			
1.35	Have the composition and toxicity, or other hazards from all solid wastes produced by the Project, been discussed?			
1.36	Have the methods for collecting, storing, treating, transporting, and finally disposing of these solid wastes been described?			
1.37	Have the locations for the final disposal of all solid wastes been discussed, in consideration with the Waste Management Plan(s) concerned?			
1.38	Have the types and quantities of liquid effluents generated by the Project been identified? (including site drainage and run-off, process wastes, cooling water, treated effluents, sewage) • during construction; • during operation; • during decommissioning.			

SECTION 1 DESCRIPTION OF THE PROJECT				
No.	Review Question	Relevant?	Adequately Addressed?	What further information is needed?
1.39	Have the composition and toxicity or other hazards of all liquid effluents produced by the Project been discussed?			
1.40	Have the methods for collecting, storing, treating, transporting, and finally disposing of these liquid effluents been described?			
1.41	Have the locations for the final disposal of all liquid effluents been discussed?			
1.42	Have the types and quantities of gaseous and particulate emissions generated by the Project identified? (including process emissions, fugitive emissions, emissions from combustion of fossil fuels in stationary and mobile plant, emissions from traffic, dust from materials handling, odours) • during construction; • during operation; • during decommissioning.			
1.43	Have the composition and toxicity or other hazards of all of emissions to the air produced by the Project been discussed?			
1.44	Have the methods for collecting, treating, and finally discharging these emissions to the air described?			
1.45	Have the locations for discharge of all emissions to the air been identified and have the characteristics of the discharges been identified? (e.g. height of stack, velocity and temperature of release)			
1.46	Have the methods for capturing, treating, and storing these emissions been described?			
1.47	Have the locations for the storage of all emissions identified and the characteristics of the storage unit been identified? (e.g. type of storage unit, storing capacity, methods used)			
1.48	Has the potential for resource recovery from wastes and residues been discussed? (including re-use, recycling or energy recovery from solid waste and liquid effluents)			
1.49	Have any sources of noise, heat, light or electromagnetic radiation from the Project been identified and quantified? (including equipment, processes, construction works, traffic, lighting, etc.)			
1.50	Have the methods for estimating the quantities and composition of all residues and the emissions identified and any difficulties discussed?			
1.51	Have the uncertainty attached to estimates of residues and emissions been discussed?			

SECTION 1 DESCRIPTION OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
Risks of Accidents and Hazards				
1.52	Have any of the risks associated with the Project been discussed? • risks from handling of hazardous materials; • risks from spills fire, explosion; • risks of traffic accidents; • risks from breakdown or failure of processes or facilities; • risks from exposure of the Project to natural disasters (earthquake, flood, landslide etc.).			
1.53	Have the measures to prevent and respond to accidents and abnormal events been described? (preventive measures, training, contingency plans, emergency plans, early-warning systems, etc.)			
1.54	Is there a plan in place detailing the preparedness for an emergency (e.g. suggested as part of the EIA Report's Mitigation measures) ?			
1.55	Is this plan in line with other EU legislation requirements, in particular Article 12 of the Seveso Directive (Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances) which refers to emergency plans?			
Other Questions on Description of the Project				

SECTION 2 DESCRIPTION OF ENVIRONMENTAL FACTORS LIKELY TO BE AFFECTED BY THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
Baseline: Aspects of the Environment				
2.1	Have the existing land uses on the land to be occupied by the Project and the surrounding area described and are any people living on or using the land been identified? (including residential, commercial, industrial, agricultural, recreational, and amenity land uses and any buildings, structures or other property)			
2.2	Have the topography, geology and soils of the land to be occupied by the Project and the surrounding area been described?			
2.3	Have any significant features of the topography or geology of the area described and are the conditions and use of soils been described? (including soil quality stability and erosion, agricultural use and agricultural land quality)			
2.4	Has the biodiversity of the land/sea to be affected by the Project and the surrounding area been described and illustrated on appropriate maps?			
2.5	Have the species (including their populations and habitats), and the habitat types that may be affected by the Project been described? (Particular attention should be paid to any species and habitats protected under the Habitats and Birds Directives (Directives 92/43/EEC and 2009/147/EC).			
2.6	Have the Natura 2000 sites that may be affected by the Project been described?			
2.7	Has the water environment of the area been described? (including reference to any River Basin Management Plans/Programme of Measures under the WFD, running and static surface waters, groundwaters, estuaries, coastal waters and the sea and including run off and drainage. N.B. not relevant if water environment will not be affected by the Project)			
2.8	Have the hydrology, water quality, and use of any water resources that may be affected by the Project been described? (including any River Basin Management Plans/Programme of Measures under the WFD, use for water supply, fisheries, angling, bathing, amenity, navigation, effluent disposal)			
2.9	Have local climatic and meteorological conditions in the area been described? (N.B. not relevant if the atmospheric environment will not be affected by the Project)			
2.10	Has existing air quality in the area been described, including, where relevant, limit values set out by Directives 2008/50/EC and 2004/107/EC as well as relevant Programmes adopted under this legislation? (N.B. not relevant if the ambient air will not be affected by the Project)			

SECTION 2 DESCRIPTION OF ENVIRONMENTAL FACTORS LIKELY TO BE AFFECTED BY THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
2.11	Has the existing noise climate been described, including, where relevant, reference to noise maps and actions plans set out by the Environmental Noise Directive (2002/49/EU)? (N.B. not relevant if acoustic environment will not be affected by the Project)			
2.12	Has the existing situation regarding light, heat, and electromagnetic radiation been described? (N.B. not relevant if these characteristics of the environment will not be affected by the Project)			
2.13	Have any material assets in the area that may be affected by the Project been described? (including buildings, other structures, mineral resources, water resources)			
2.14	Have any locations or features of archaeological, historic, architectural or other community or cultural importance in the area that may be affected by the Project been described, including any designated or protected sites?			
2.15	Has the landscape or townscape of the area that may be affected by the Project been described, including any designated or protected landscapes and any important views or viewpoints?			
2.16	Have the demographic, social and socio-economic conditions (e.g. employment) in the area been described?			
2.17	Have any future changes in any of the above aspects of the environment, that may occur in the absence of the Project, been described? (the so-called Dynamic Baseline)			
Data Collection and Methods				
2.18	Has the study area been defined widely enough to include all of the areas likely to be significantly affected by the Project?			
2.19	Have all relevant national and local authorities been contacted to collect information on the Baseline environment?			
2.20	Have all the sources of data and information from existing databases, free services, and other relevant environmental assessments been investigated?			
2.21	Have sources of data and information on the existing environment been adequately referenced?			
2.22	Is justification provided about which particular existing datasets was(were) were relied upon, as opposed to others?			

SECTION 2 DESCRIPTION OF ENVIRONMENTAL FACTORS LIKELY TO BE AFFECTED BY THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
2.23	Where data collection has been undertaken to characterise the Baseline environment, have the methods used, any difficulties encountered, and any uncertainties been the data described?			
2.24	Were the methods used appropriate for the purpose?			
2.25	Have the methods used to predict the impact of the Project on climate changes been described? (if relevant)			
2.26	Have the methods used to predict climate change's impact on the Project been described?			
2.27	Is the uncertainty attached to the climate change evolution predictions discussed? (if relevant)			
2.28	Did you consider life cycle assessment of the Project to describe the Project's impact on climate change? (if relevant)			
2.29	Have any important gaps in the data on the existing environment/ evolution prediction identified (e.g. climate change), and the means used to deal with these gaps during the assessment, been explained?			
2.30	Where data collection would be required to adequately characterise the Baseline environment, but they have not been practicable for any reason, are the reasons explained and have proposals been set out for the surveys to be undertaken at a later stage?			
Other Questions on the Description of the Environment				

SECTION 3 DESCRIPTION OF THE LIKELY SIGNFICANT EFFECTS OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
Scoping of Effects				
3.1	Has the process by which the scope of the information for the EIA Report defined been described? (for assistance, see the Scoping Guidance Document in this series)			
3.2	Is it evident that a systematic approach to Scoping has been adopted?			
3.3	Was consultation carried out during Scoping?			
3.4	Have the comments and views of consultees been presented?			
Prediction of Direct Effects				
3.5	Have the direct, primary effects on land uses, people, and property been described and, where appropriate, quantified?			
3.6	Have the direct, primary effects on geological features and characteristics of soils been described and, where appropriate, quantified?			
3.7	Have the direct, primary effects on biodiversity been described and, where appropriate, quantified? (if relevant, are references made to Natura 2000 sites? (Directive 2009/147/EC and Directive 92/43/EEC))			
3.8	Have the direct, primary effects on the hydrology and water quality of water features been described and, where appropriate, quantified?			
3.9	Have the direct, primary effects on uses of the water environment been described and, where appropriate, quantified? (if relevant, are references made for River Basin Management Plans/Programmes of Measures under the WFD (2000/60/EC))			
3.10	Have the direct, primary effects on air quality been described and, where appropriate, quantified? (if relevant, are references made to Air Quality Plans under Directives 2008/50/EC and 2004/107/EC))			
3.11	Have the direct, primary effects on climate change been described and, where appropriate, quantified?			
3.12	Have the direct, primary effects on the acoustic environment (noise or vibration) been described and, where appropriate, quantified? (if relevant, are references made to Action Plans/Programme under the Environmental Noise Directive (2002/49/EU))			
3.13	Have the direct, primary effects on heat, light or electromagnetic radiation been described and, where appropriate, quantified?			

SECTION 3 DESCRIPTION OF THE LIKELY SIGNFICANT EFFECTS OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
3.14	Have the direct, primary effects on material assets and depletion of natural resources (e.g. fossil fuels, minerals) been described?			
3.15	Have the direct, primary effects on locations or features of cultural importance been described?			
3.16	Have the direct, primary effects on the quality of the landscape and on views and viewpoints been described and, where appropriate, illustrated?			
3.17	Have the direct, primary effects on environmentally relevant demography, social, and socio-economic condition in the area been described and, where appropriate, quantified?			
3.18	Have the secondary effects on any of the environment's aspects, above, caused by primary effects on other aspects been described and, where appropriate, quantified? (e.g. effects on biodiversity, including species and habitats protected under Directives 92/43/EEC and 2009/147/EC caused by soil, air or water pollution or noise; effects on uses of water caused by changes in hydrology or water quality; effects on archaeological remains caused by desiccation of soils)			
3.19	Have the temporary, short term effects caused only during construction or during time limited phases of Project operation or decommissioning been described? (e.g. emissions produced during the construction)			
3.20	Have the permanent effects on the environment caused by construction, operation or decommissioning of the Project been described?			
3.21	Have the long-term effects on the environment, caused over the lifetime of Project operations or caused by build-up of pollutants, in the environment been described?			
3.22	Have the effects that could result from accidents, abnormal events or exposure of the Project to natural or man-made disasters been described and, where appropriate, quantified?			
3.23	Have the effects on the environment, caused by activities ancillary to the main Project, been described? (ancillary activities are part of the Project but usually take place at a distance from the main Project location e.g. construction of access routes and infrastructure, traffic movements, sourcing of aggregates or other raw materials, generation and supply of power, disposal of effluents or wastes). For further guidance and explanation concerning ancillary works assessment see [redacted]			

SECTION 3 DESCRIPTION OF THE LIKELY SIGNFICANT EFFECTS OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
3.24	Have the indirect effects on the environment caused by consequential development been described? (consequential development is other Projects, not part of the main Project, stimulated to take place by implementation of the Project e.g. to provide new goods or services needed for the Project, to house new populations or businesses stimulated by the Project)			
3.25	Have the cumulative effects on the environment of the Project, together with other existing or planned developments in the locality, been described? (different future scenarios including a worst-case scenario should be described, as well as the effects on both climate change and biodiversity). For further guidance on the assessment of cumulative impacts see [redacted]			
3.26	Have the transboundary effects on the environment of the Project, either during construction or operation, been described?			
3.27	Have the geographic extent, duration, frequency, reversibility, and probability of occurrence of each effect been identified as being appropriate?			
Prediction of Effects on Human Health and Sustainable Development Issues				
3.28	Have the primary and secondary effects on human health and welfare described and, where appropriate, been quantified? (e.g. health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups).			
3.29	Have the impacts on issues such as biodiversity, marine environment, global climate change, use of natural resources and disaster risk been discussed, where appropriate?			
Evaluation of the Significance of Effects				
3.30	Is the significance or importance of each predicted effect clearly explained with reference to legal or policy requirements, other standards, and the number, importance, and sensitivity of people, resources or other receptors affected?			
3.31	Where effects are evaluated against legal standards or requirements, have the appropriate local, national or international standards been used and has relevant guidance followed?			
3.32	Have the positive effects on the environment been described, as well as the negative effects?			

SECTION 3 DESCRIPTION OF THE LIKELY SIGNFICANT EFFECTS OF THE PROJECT				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
Impact Assessment Methods				
3.33	Have the methods used to predict the effects described, and the reasons for their choice, any difficulties encountered, and uncertainties in the results been discussed?			
3.34	Where there is uncertainty about the precise details of the Project, and its impact on the environment/climate change, have worst-case predictions been described?			
3.35	Where there have been difficulties in compiling the data needed to predict or evaluate effects, have these difficulties been acknowledged and their implications for the results been discussed?			
3.36	Has the basis for evaluating the significance or importance of impacts been described clearly?			
3.37	Have the impacts been described on the basis that all Mitigation Measures proposed have been implemented i.e. have the residual impacts been described?			
3.38	Is the level of treatment of each effect appropriate to its importance for the Development Consent decision? Does the discussion focus on the key issues and avoid irrelevant or unnecessary information?			
3.39	Is appropriate emphasis given to the most severe, adverse effects of the Project with lesser emphasis given to less significant effects?			
Other Questions relevant to Description of Effects				
	Have, with a view to avoiding duplication of assessments, the available results of other relevant assessments under Union or national legislation, in preparing the environmental impact assessment report been taken into account? If so, how was this done?			

SECTION 4 CONSIDERATION OF ALTERNATIVES				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
4.1	Have the different Alternatives suggested during Scoping been considered and assessed, and if not has justification been provided?			
4.2	Have the Developer and practitioners, who are preparing the EIA Report, identified and assessed additional Alternatives (to the ones suggested during Scoping)?			
4.3	Have the process by which the Project was developed been described and are the Alternatives to the design of the Project considered during this process been described? (for assistance, see also the guidance on types of Alternatives which may be relevant in the Scoping Guidance Document in this series)			
4.4	Have the Alternatives to the design considered during this process been described? (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)			
4.5	Have the Alternatives to technology been considered during this process? (for assistance, see also the guidance on types of Alternatives which may be relevant in the Scoping Guidance Document in this series)			
4.6	Have the Alternatives to the location considered during this process been described? (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)			
4.7	Have the Alternatives to the size considered during this process been described (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)			
4.8	Have the Alternatives to the scale considered during this process been described? (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)			
4.9	Has the Baseline situation in the 'do-nothing' scenario been described?			
4.10	Are the Alternatives realistic and genuine Alternatives to the Project? (i.e. feasible Project options that meet the objectives)			

4.11	Have the main reasons for choosing the proposed Project been provided, including an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects?			
4.12	Are the main environmental effects of the Alternatives compared to those of the proposed Project?			
4.13	Are Mitigation Measures considered in the assessment of Alternatives? (more on mitigation in section 5 below)			
Other Questions on Consideration of Alternatives				

SECTION 5 DESCRIPTION OF MITIGATION				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
5.1	Where there are significant adverse effects on any aspect of the environment, has the potential for the mitigation of these effects been discussed?			
5.2	Have the measures that the Developer has proposed to implement, in order to mitigate effects, been clearly described and is their effect on the magnitude and significance of impacts clearly explained?			
5.3	Have any proposed mitigation strategy's negative effects been described?			
5.4	If the effect of Mitigation Measures on the magnitude and significance of impacts is uncertain, has this been explained?			
5.5	Is it clear if the Developer has made a binding commitment to implement the mitigation proposed or acknowledged that the Mitigation Measures are just suggestions or recommendations?			
5.6	Do the Mitigation Measures cover both the construction and operational phases of the Project?			
5.7	Have the Developer's reasons for choosing the proposed mitigation been explained?			
5.8	Have the responsibilities for the implementation of mitigation including roles, responsibilities, and resources been clearly defined?			
5.9	Where the mitigation of significant adverse effects is not practicable, or where the Developer has chosen not to propose any mitigation, have the reasons for this been clearly explained?			
5.10	Is it evident that the practitioners developing the EIA Report and the Developer have considered the full range of possible approaches to mitigation, including measures to avoid, prevent or reduce and, where possible, offset impacts by alternative strategies or locations, changes to the Project design and layout, changes to methods and processes, 'end of pipe' treatment, changes to implementation plans and management practices, measures to repair or remedy impacts and measures to compensate impacts?			
Other Questions on Mitigation				

SECTION 5 DESCRIPTION OF MITIGATION				
No.	Review Question	Relevant?	Adequately Addressed?	What further information is needed?

SECTION 6 DESCRIPTION OF MONITORING MEASURES				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
6.1	Where adverse effects on any aspect of the environment are expected, has the potential for the monitoring of these effects been discussed?			
6.2	Are the measures, which the Developer proposes implementing to monitor effects, clearly described and has their objective been clearly explained?			
6.3	Is it clear whether the Developer has made a binding commitment to implement the proposed monitoring programme or that the Monitoring Measures are just suggestions or recommendations?			
6.4	Have the Developer's reasons for choosing the monitoring programme proposed been explained?			
6.5	Have the responsibilities for the implementation of monitoring, including roles, responsibilities, and resources been clearly defined?			
6.6	Where monitoring of adverse effects is not practicable, or the Developer has chosen not to propose any Monitoring Measures, have the reasons for this been clearly explained?			
6.7	Is it evident that the practitioners developing the EIA Report and the Developer have considered the full range of possible approaches to monitoring, including Monitoring Measures covering all existing environmental legal requirements, Monitoring Measures stemming from other legislation to avoid duplication, monitoring of Mitigation Measures (ensuring expected significant effects are mitigated as planned), Monitoring Measures capable of identifying important unforeseen effects?			
6.8	Have arrangements been proposed to monitor and manage residual impacts?			
Other Questions on Monitoring Measures				

SECTION 7 QUALITY				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
Quality of presentation				
7.1	Is the EIA Report available in one or more clearly defined documents?			
7.2	Is the document(s) logically organised and clearly structured, so that the reader can locate information easily?			
7.3	Is there a table of contents at the beginning of the document(s)?			
7.4	Is there a clear description of the process that has been followed?			
7.5	Is the presentation comprehensive but concise, avoiding irrelevant data and information?			
7.6	Does the presentation make effective use of tables, figures, maps, photographs, and other graphics?			
7.7	Does the presentation make effective use of annexes or appendices to present detailed data that is not essential to understanding the main text?			
7.8	Are all analyses and conclusions adequately supported with data and evidence?			
7.9	Have all sources of data been properly referenced?			
7.10	Has terminology been used consistently throughout the document(s)?			
7.11	Does it read as a single document, with cross referencing between sections used to help the reader navigate through the document(s)?			
7.12	Is the presentation demonstrably fair and, as far as possible, impartial and objective?			
Non-Technical Summary				
7.13	Does the EIA Report include a Non-Technical Summary?			
7.14	Does the Summary provide a concise but comprehensive description of the Project, its environment, the effects of the Project on the environment, the proposed Mitigation Measures, and proposed monitoring arrangements?			
7.15	Does the Summary highlight any significant uncertainties about the Project and its environmental effects?			
7.16	Does the Summary explain the Development Consent process for the Project and the EIA's role in this process?			
7.17	Does the Summary provide an overview of the approach to the assessment?			

SECTION 7 QUALITY				
No.	**Review Question**	**Relevant?**	**Adequately Addressed?**	**What further information is needed?**
7.18	Has the Summary been written in non-technical language, avoiding technical terms, detailed data, and scientific discussion?			
7.19	Would it be comprehensible to a lay-member of the public?			
Expertise				
7.20	Is the competency of experts, who are responsible for the preparation of the EIA Report, indicated or otherwise explained in the EIA Report?			
7.21	Has the Developer complied with national or local legal requirements and practices for the selection of experts responsible for the preparation of the EIA Report?			
Other Questions on Quality of Presentation				

ANNEXES

ANNEX I – LINKS WITH OTHER EU INSTRUMENTS

The EIA Directive is just one of many pieces of EU legislation in place that affect environmental and Project planning. This poses the risk of duplication of assessments and procedures, and offers various possibilities for synergy. Under the principle of Better Regulation, whereby EU policies and laws should be designed and implemented so that they achieve their objectives at minimum cost[20], efforts are underway to 'streamline' these different assessments and procedures where possible. It is important to bear in mind that 'streamlining' in this context means improving and better coordinating environmental assessment procedures with a view to reducing unnecessary administrative burdens, create synergies and hence speed up the environmental assessment process, whilst at the same time ensuring a maximum level of environmental protection through comprehensive environmental assessments.

Streamlining measures can, therefore, be found in the EIA Directive:

- **Joint or coordinated procedures (Article 2(3) of the EIA Directive)**

Article 2(3) of the EIA Directive requires Member States to set up coordinated or joint procedures when an assessment is required, both under the EIA Directive and the Habitats Directive (see below). Moreover, Member States have the possibility to apply these joint or coordinated procedures to other environmental assessments stemming from EU legislation, in particular under the Water Framework Directive and the Industrial Emissions Directive. See below for more specific information on interactions with these pieces of legislation. Practitioners are advised to check their national legislation to see when and how coordination is required.

- **Consideration of other assessments (Article 4(4), Article 5(1) of the EIA Directive)**

Article 4(4) of the EIA Directive relating to the Screening stage of the EIA process, as well as Article 5(1) of the EIA Directive on the preparation of the EIA Report, requires practitioners to take the available results of other relevant assessments under other EU and national legislation into account.

- **Other relevant information held by authorities (Article 5(4) of the EIA Directive)**

In order to strengthen the availability of data, Article 5(4) of the EIA Directive requires any authorities holding relevant information to make it available to the Developers of Projects subject to EIA.

This section introduces the main pieces of EU legislation relevant for streamlining with EIA. Practitioners should always check whether their Project falls under other EU legislation, and their respective national transposing measures, and be aware that there are various other guidance documents issued at EU and national level to help practitioners untangle legislative complexities. Some of these EU guidance documents are referred to in the relevant sections under Part B of the EIA guidance documents and are also listed below as well as in another Annex to this Guidance Document on Other Relevant Guidance Documents.

The legislation covered in this section is by no means an exhaustive list, but the legislation with the most significance include the following (formal names are introduced below):

- SEA Directive;
- Birds and Habitats Directives;
- Water Framework Directive;
- Marine Strategy Framework Directive;
- Ambient Air Quality Directive and Heavy Metals in the Ambient Air Directive;
- Waste Framework Directive;

[20] European Commission Staff Working Document, *Better Regulation Guidelines*, SWD (2015) 111 final.

- Industrial Emissions Directive;
- Seveso Directive
- Trans-European networks: TEN-E, TEN-T and TEN-TEC Regulations;
- Aarhus and ESPOO conventions (including Directive 2003/4/EC and 2003/35/EC).

SEA DIRECTIVE

Name used	Formal name
Strategic Environmental Assessment (SEA) Directive	▪ Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment
Relevant EU guidance:	▪ Commission guidance document on Streamlining environmental assessments conducted under Article 2(3) of the EIA Directive; ▪ Commission guidance document on the implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment; ▪ Commission guidance on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs).

The SEA Directive concerns the Strategic Environmental Assessment, which is carried out on certain plans and programmes. In many cases, an SEA of a relevant plan or programme underpinning a proposed Project will have been carried out prior to the EIA. Article 3(2) of the SEA Directive requires an SEA to be undertaken if the plan or programme 'sets the framework' for a Project listed in Annexes I and II to the EIA Directive.

Opportunities for synergy

The SEA and EIA are similar procedures, despite the former being carried out on plans and programmes and the latter involving Projects. Both assessments can be summarised as follows: an environmental report is prepared in which the likely significant effects (of plans, programmes or Projects) on the environment and the reasonable alternatives are identified; the environmental authorities and the public (and affected Member States) must be informed and consulted; the Competent Authority decides, taking the results of consultations into consideration. The public is informed of the decision afterwards. While the scope of the two assessments usually differs, very often much of the work carried out under the SEA can be built upon for the EIA. Alternatives identified during the SEA may be relevant for the EIA, some of the data gathered under the SEA may be used to form the baseline of the EIA. Practitioners carrying out the EIA should consult the SEA report done for any relevant plans or programmes with a view of avoiding the duplication of work.

The Guidance document on Streamlining environmental assessments for energy infrastructure Projects of Common Interest (PCIs) (see the Annex to this Guidance Document on Other Relevant Guidance and Tools) provides guidance on how to take advantage of synergies between the SEA and EIA procedures. In addition, various guidance documents exist at national level.

During the Screening procedure of EIA Projects, assessments carried out under the SEA Directive may be directly relevant to the determination of whether or not the Project may have significant impacts on the environment. This may be the case if the assessment under the SEA Directive contains information on specific sensitivities of the local area to certain developments in which the Project is proposed.

Joint/coordinated procedures

Joint or coordinated procedures are not directly provided for by the provisions of the EIA and SEA Directives, given that one relates to projects (Article 2(3) of the EIA Directive) and the other to plans/programmes (Article 11(2) of the SEA Directive); moreover, each procedure must be carried out

on its own merits (Article 11(1) of the SEA Directive). The CJEU has indeed held that an assessment undertaken within the framework of the EIA Directive does not dispense with the requirement to carry out an assessment under the SEA Directive (cf. C-295/10, *Valčiukienė and Others*, para 55-63). However, in some cases a plan/programme, and the subsequent project development, can be subjected to an integrated assessment procedure: Member States are free to set up such mechanisms, as long as all of the requirements of both Directives are fulfilled. In this perspective, the CJEU also held, in the same decision, that a joint procedure may take place in which the requirements under both Directives are covered by a single environmental assessment procedure (cf. C-295/10, *Valčiukienė and Others*, para 55-63).

BIRDS AND HABITATS DIRECTIVES

Name used	Formal name
Habitats Directive	■ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna
Birds Directive	■ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds
Relevant EU guidance:	■ Commission guidance document on Streamlining environmental assessments conducted under Article 2(3) of the EIA Directive; ■ Commission guidance on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs) ■ Commission guidance on Managing Natura 2000 sites: the provisions of Article 6 of Directive 92/43/EEC ■ Manual of European Union Habitats - EUR28.

The Habitats Directive, along with the Birds Directives (Directive 2009/147/EC), aim to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the EU Members States. Together, these Directives set up a coherent network of sites (the Natura 2000 Network) hosting habitats and/or species that should be maintained or restored at favourable conservation status according to the terms of the Directives. Any plan or Project likely to have a significant effect on a site within the Natura 2000 site is subject to an Appropriate Assessment (AA) of the implications for the site in view of the site's conservation objectives (Habitats Directive, Article 6(3)). The AA decision is binding and determines whether a plan or Project may proceed, subject to specific provisions set out in Article 6(4).

Opportunities for synergy

The scope of the AA and the EIA is different – the EIA should consider all significant environmental effects, while the AA focuses on the conservation objectives and the integrity of the Natura 2000 site in question; however, as with the SEA detailed above, some of the information collected for one assessment can be used for the other.

Joint/coordinated procedures

Article 2(3) of the EIA Directive stipulates that when Projects have to be assessed under both the EIA and the Birds or Habitats Directives, Member States *shall, where appropriate*, ensure that coordinated and/or joint procedures are provided for. This differs from instances in which Projects also have to be assessed under other EU legislation, where Member States *may* provide for coordinated and/or joint procedures. The EIA Directive makes several references to the Habitats Directive, for example, when identifying significant impacts of a Project, particular attention must be paid to species and habitats protected by the Birds and the Habitats Directives. The EU has issued a guidance document to assist practitioners in the extent to which the results from an AA assessment is taken into account in an EIA Procedure (see the Guidance document on streamlining environmental assessments conducted under Article 2(3) of the EIA Directive, full references in the Annex to this Guidance Document on Other Relevant Guidance and Tools).

WATER FRAMEWORK DIRECTIVE

Name used	Formal name
WFD	■ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy
Relevant EU guidance:	■ Commission guidance document on Streamlining environmental assessments conducted under Article 2(3) of the EIA Directive ■ Commission guidance on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs) ■ Common Implementation Strategy for the WFD: Guidance document no 7 Monitoring under the Water Framework Directive ■ Common Implementation Strategy for the WFD: Guidance document no 20 Exemptions to the Environmental Objectives

The WFD establishes a framework for the protection of inland surface waters, transitional waters, coastal waters, and groundwater. Under this Directive, River Basin Management Plans (RBMP) are established and updated every 6 years to coordinate and implement water status-related measures within each river basin. RBMPs must address the objectives set out by the WFD, and must include an analysis of the river basin's key characteristics, a pressures assessment, review of the impact of human activity on the status of water and measures to meet the Directive's objective of 'good status' for all waters.

Projects that may lead to failure of achieving good status of water bodies or lead to deterioration of quality elements need to be assessed and if possible, a more environmentally friendly alternative should be found. If no alternative can be found, then the Project can only go ahead when it can demonstrate that first all practicable Mitigation Measures are taken to reduce the impact. Secondly, it must also be demonstrated that the reasons for deterioration are of overriding public interest or that the Project's benefits otherwise outweigh failure to achieve the relevant environmental objectives (cf. conditions set out in Article 4(7) of the WFD). The process of identifying and assessing such impacts may be carried out jointly with the EIA procedure. However, the requirement of Article 4(7) of the WFD goes beyond the requirements of the EIA Directive in the sense that it covers activities that may not be listed in Annex I or II to the EIA Directive.

Opportunities for synergy
The WFD ensures that detailed environmental data are collected for water as part of the planning process of the RBMP. Hence, synergies can be gained for part of an EIA through data collection and the required assessments of effects on water bodies according to Article 4(7) of the WFD. As discussed above, if a Project listed in Annex I or II to the EIA Directive is found to impact the status of a water body as set out in the relevant RBMP, further assessment will be required to develop and review alternatives and possibly justify reasons of overriding public interest in line with the requirements of the Water Framework Directive. This may influence the scope and nature of an EIA Report in the sense that it must incorporate an assessment of the likely impacts of the Project on the objectives adopted for the water body in question.

Joint/coordinated procedure
Article 2(3) of the EIA Directive provides the option for joint or coordinated procedures where Projects also have to be assessed under other EU legislation, but it is not a requirement.

MARINE STRATEGY FRAMEWORK DIRECTIVE

Name used	Formal name
MSFD	■ Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)
Relevant EU guidance:	■ Commission Final report on MSFD and licencing and permitting

The Marine Strategy Framework Directive (MFSD) establishes a framework to assess and implement good environmental status of the EU's marine waters by 2020. In doing so, the MSFD takes an ecosystem and integrated approach whereby environmental protection and sustainable use go hand in hand to prevent depletion of natural resources upon which marine-related economic and social activities are based.

Opportunities for synergy
The MSFD ensures that an environmental baseline for the marine waters are established. On the basis of this assessment and baseline, measures must be adopted and gradually implemented to ensure that good environmental status is achieved within a specified number of years. Unlike the WFD, there is no independent requirement in the MSFD to assess activities. However, the objectives and measures adopted in Member States may influence the scope and nature of an EIA Report in the sense that it must incorporate an assessment of the likely impacts of the Project on the objectives adopted for the marine water body in question.

Joint/coordinated procedure
Article 2(3) of the EIA Directive provides the option for joint or coordinated procedures where Projects also have to be assessed under other EU legislation, but it is not a requirement.

AMBIENT AIR QUALITY DIRECTIVE AND HEAVY METAL IN AMBIENT AIR DIRECTIVE

Name used	Formal name
AQD	■ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe
HMAQD	■ Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air
Relevant EU guidance:	■ N/A

The AQD establishes a framework for the active monitoring of ambient air and the removing of pollutants. The Directive establishes different air quality objectives (limit values, target values, critical levels and threshold) in relation to a wide range of pollutants (sulphur dioxide, nitrogen, dioxide, particulate matter, lead, benzene, carbon monoxide). It requires air quality plans when limit or target values are not complied with as well as short-term action plan when alert thresholds are exceeded. In addition, the Directive obliges Member States to keep the public informed and sets out requirements for the assessment of air quality (e.g., the monitoring network). In addition, the HMAQD sets limit values for the air pollutants arsenic, cadmium, nickel and benzo(a)pyrene.

Opportunities for synergy
During the preparation of the EIA Report, the existence of air quality objectives as well as existing air quality plans and short term action plans, provide a strong basis for the analysis of the Baseline, Alternatives to the Project, and environmental factors, in addition to any possible remedial action.

WASTE FRAMEWORK DIRECTIVE

Name used	Formal name
WasteFD	■ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives
Relevant EU guidance:	■ Application of EIA Directive to the rehabilitation of landfills.

The WasteFD establishes a legal framework for the management and treatment of most waste types. The Directive sets out a waste hierarchy that ranges from prevention to disposal. Waste management under the Directive must be implemented without endangering human health and without harming the environment (e.g. without risk to water, air, biodiversity, and without causing nuisance). It also sets out rules for extended producer responsibility, effectively adding to the burdens of manufacturers to manage products returned after use.

Opportunities for synergy
The WasteFD requires the adoption and implementation of Waste Management Plans and Waste Prevention Programmes at the national and local levels. These plans and programmes should analyse the current situation with regards to waste treatment, as well as identify the measures needed to carry out waste management in the context of the WasteFD's objectives. This includes existing and planned waste management installations, which are likely to constitute Projects subject to the EIA Directive. As waste installations should be provided for under Waste Management Plans, they are also subject to the requirements of the SEA Directive (see above).

The EIA Directive may also bear relevance for any Project with regard to the waste produced not only during the construction and operation of the Project, but also, in particular, with regard to the decommissioning and/or rehabilitation of the site.

During the preparation of the EIA Report, the waste produced and returned to the Project location must be taken into consideration in assessing the Project's significant effects on the environment, and would be relevant for the establishment of Alternatives and Mitigation as well as Compensation Measures.

INDUSTRIAL EMISSIONS DIRECTIVE

Name used	Formal name
IED	■ Directive 2010/75/EU of the European Parliament and the Council on industrial emissions
Relevant EU guidance:	■ Guidance under Article 13(3)(c) and (d) of the IED; ■ Commission Communication on the elaboration of baseline reports under Article 22(2) of the IED.

The IED is the main EU instrument regulating pollutant emissions from industrial installations. Around 50,000 Projects undertaking the industrial activities listed in Annex I to the IED are required to operate in accordance with a permit, which should contain conditions set in accordance with the principles and provisions of the IED. As indicated in the Commission Guidance document on 'Interpretation of definitions of Project categories of Annex I and II to the EIA Directive' (see the Annex to this Guidance Document on Other Relevant Guidance and Tools): the EIA Directive and the Industrial Emissions Directive (IED) sometimes relate to the same type of activities. However, it is

important to be aware of the differences that exist between the objective, the scope, classification systems, and thresholds of these two directives.

Opportunities for synergy
IED permits must take the whole environmental performance of the industrial plant into account, including emissions to air, water, and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, and the restoration of the site upon closure. Such an exercise aligns closely with the EIA Directive and 'Member States have discretion to use the thresholds set by Annex I to the IED in the context of the EIA Directive' (Commission Guidance Document, Interpretation of definitions of Project categories of Annex I and II to the EIA Directive, see the Annex to this Guidance Document on Other Relevant Guidance and Tools).

In addition, permits issued under the IED are to be reconsidered periodically to ensure compliance. While monitoring carried out under the IED will likely not cover all environmental aspects to be considered, the IED does require specific monitoring, part of which can be used for the EIA. The approach to monitoring for the IED can also be adopted and broadened to cover other aspects outlined in EIA monitoring proposals.

Joint/coordinated procedure
Article 2(3) of the EIA Directive provides the option for joint or coordinated procedures where Projects also have to be assessed under other EU legislation, but it is not a requirement.

SEVESO DIRECTIVE

Name used	Formal name
Seveso Directive	Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances
Relevant EU guidance:	Commission guidance document on Streamlining environmental assessments conducted under Article 2(3) of the EIA Directive Guidance tools are collected on the Minerva portal at: [redacted]

The Seveso Directive was adopted in response to the industrial accident releasing hazardous chemicals in the Italian city of Seveso in 1976. The Directive has since been revised several times. The aim of the Seveso Directivef is to prevent and, in case they occur, limit major accidents involving dangerous substances. It applies to establishments where dangerous substances may be present in quantities above a certain threshold. Certain industrial activities covered by other EU legislation are excluded from the Seveso Directive (e.g. nuclear establishments or the transport of dangerous substances).

The Seveso Directive takes a tiered approach to requiring safety measures at facilities based on the volumes of dangerous substances present at facilities. Seveso sites are categorised as lower-tier Seveso establishments or upper-tier Seveso establishments. Operators of lower-tier Seveso establishments have to notify the competent authority, design a major-accident prevention policy (MAPP), draw up accident reports and take into account land-use planning. In addition to these requirements, operators of upper-tier Seveso establishment must establish a safety report, implement a safety management system, define an internal emergency plan and provide the competent authorities with all necessary information. Furthermore, authorities are required inter alia to produce external emergency plans for upper tier establishments, deploy land-use planning for the siting of establishments, make relevant information publically available, ensure that any necessary action is taken after an accident including emergency measures, and conduct inspections.

Opportunities for synergy
The Seveso Directive is highly relevant to a number of assessments under the EIA Directive such as for instance impacts related to risks of major accidents and disasters, Mitigation, and climate change

adaptation. In addition, in light of the risk presented by establishments covered by the Seveso Directive, rules on permitting as well as regarding governance come into play, and as such the Seveso Directive is often directly linked to other legislation listed in this Annex, such as the IED and Aarhus convention. The Seveso Directive in this regard ensures that detailed information on installations are collected and employed in both land-use planning as well as in contingency planning. Synergies with EIA can be gained for a part of the EIA report containing the design of installations and the assessment of risk hazards that relates to the chosen design. The Seveso Directive can also be of use for the Screening, Scoping and Preparation of the EIA Report stages in relation to: quantitative thresholds for the assessment of significance, rules of public information in relation to governance, and finally the rules on Monitoring.

Joint/coordinated procedure
Article 2(3) of the EIA Directive provides the option for joint or coordinated procedures where Projects also have to be assessed under other EU legislation, but it is not a requirement.

TRANS-EUROPEAN NETWORKS IN TRANSPORT, ENERGY AND TELECOMMUNICATION

Name used	Formal name
TEN-T Regulation: Trans-European Transport Network	■ Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network
TEN-TEC Regulation: Trans-European Telecommunication Network	■ Regulation (EU) No 283/2014 of the European Parliament and of the Council of 11 March 2014 on guidelines for trans-European networks in the area of telecommunications infrastructure.
TEN-E Regulation Trans-European Energy Network (PCI regulation)	■ Regulation (EU) No 347/2013 Of The European Parliament and of The Council ■ of 17 April 2013 on guidelines for trans-European energy infrastructure.
Connecting Europe Facility: financing for TENs	■ Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility.
Relevant EU guidance:	■ Commission guidance on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs).

The Trans-European Networks consists of lists of key transport, energy and telecommunications infrastructure Projects, known as Projects of common interest (PCIs). These Projects are designed to complete the European internal market and by interconnecting national infrastructure networks and ensuring their interoperability, thereby fulfilling e.g. the EU's energy policy objectives of affordable, secure and sustainable energy.

Under the TEN-E regulation for the energy sector, PCIs can benefit from accelerated planning and permit granting, due to streamlined environmental assessment processes.

AARHUS AND ESPOO CONVENTIONS

Name used	Formal name
Aarhus Convention	■ United National Economic Commission for Europe Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.
Espoo Convention	■ United National Economic Commission for Europe Convention on Environmental Impact Assessment in a Transboundary context.
	■ Directive 2003/4/EC of the European Parliament and of the Council on public access to environmental information and repealing Council Directive 90/313/EEC.

	■ Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regards to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC - Statement by the Commission.
Relevant EU guidance:	■ Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects; ■ Guidance document for member States' reporting under Article 9 of Directive 2003/4.

The Aarhus Convention establishes a number of rights of the public, both individuals and their associations, with regard to the environment. These rights are commonly depicted under the three pillars of access to environmental information, public participation in decision-making, and access to justice in environmental affairs. Parties to the Convention are required to make the necessary provisions so that public authorities will contribute to these rights to become effective. All EU Member States, as well as the EU itself, are parties to the Convention. The first two pillars are also part of EU law via Directives 2003/4/EC and 2003/35/EC, in addition a number of provisions in different EU instruments seek to implement these rights, such as the public participation and access to justice requirements under the EIA Directive, or the Access to Justice provisions under the IED Directive.

The Espoo Convention lays down the general obligation of States to notify and consult each other on all major Projects under consideration that are likely to have a significant adverse environmental impact across boundaries. Article 7 of the EIA Directive provides the legal basis for regulating Member States' rights and obligations in case of an EIA Procedure for a Project with transboundary impacts. Article 7(1) provides rights for the potentially affected Member States to be informed about e.g. a Screening procedure in another Member State. The affected Member State is to be informed at the latest by the time at which the public is informed in the Member State in which the Project is proposed for implementation.

Opportunities for synergy

The Aarhus Convention is the most comprehensive legal instrument relating to public involvement. By establishing rules on information and participation of the public, the Aarhus Convention has led to decisions setting precedents (e.g. on timeframes for informing the public), which can assist in the implementation of the EIA procedure. The main text indicates that public participation should be effective, adequate, formal, and provide for information, notification, dialogue, consideration, and response. Furthermore, just as the EIA Directive requires 'reasonable timeframes', so too does the Aarhus Convention. These may have an impact on the different stages discussed in the EIA Guidance Document series, for instance in relation to consultations, the EIA Directive establishes specific consultation requirements (see Part B Section 3.1).

ANNEX II – OTHER RELEVANT GUIDANCE AND TOOLS

- A. Andrusevych, T. Alge, C. Konrad (eds), Case Law of the Aarhus Convention Compliance Committee 2004-2011, 2nd edition
- Chartered Institute of Ecology and Environmental Management, Guidelines for ecological impact assessment in the UK and Ireland, Terrestrial, Freshwater, and Coastal, January 2016
- Commission, Assessment of plans and projects significantly affecting Natura 2000 sites, Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC
- Commission, Assessment of resource efficiency indicators and targets
- Commission Communication on the elaboration of baseline reports under Article 22(2) of the IED (European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions)
- Commission, DG Climate Action, Non-paper, Guidelines for Project Managers: Making vulnerable investments climate resilient
- Commission Final report on MSFD and licencing and permitting
- Commission guidance document on Non-energy mineral extraction and Natura 2000
- Commission guidance document for Member States' reporting under Article 9 of Directive 2003/4 (Guidance document on reporting about the experience gained in the application of directive 2003/4/ec concerning on public access to environmental information)
- Commission guidance document no 7. Monitoring under the Water Framework Directive
- Commission guidance document no 20. Exemptions to the Environmental Objectives
- Commission guidance document on Inland waterway transport and Natura 2000, Sustainable inland waterway development and management in the context of the EU Birds and Habitats Directives
- Commission guidance on Aquaculture and Natura 2000, Sustainable aquaculture activities in the context of the Natura 2000 Network
- Commission guidance on Managing Natura 2000 sites: the provisions of Article 6 of Directive

92/43/EEC

- Commission guidance document on Streamlining environmental assessments conducted under Article 2(3) of the EIA Directive
- Commission guidance on the application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects
- Commission guidance on wind energy development in accordance with the Natura 2000
- Commission guidance document on the implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (Title: Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment)
- Commission guidance on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs)
- Commission guidance under Article 13(3)(c) and (d) of the IED (Guidance document on the practical arrangements for the exchange of information under the Industrial Emissions Directive (2010/75/EU), including the collection of data, the drawing up of best available techniques reference documents and their quality assurance as referred to in Article 13(3)(c) and (d) of the Directive)
- Commission guidelines for the assessment of indirect and cumulative impacts as well as impact interactions
- Commission, interpretation manual of European Union habitats - EUR28
- Commission, Interpretation of definitions of Project categories of annex I and II to the EIA Directive
- Commission JRC Institute for Environment and Sustainability, Life cycle indicators framework: development of life cycle based macro-level monitoring indicators for resources, products and waste for the EU-27
- Commission Services Non-Paper: Application of EIA Directive to the rehabilitation of landfills
- Commission Services Non-Paper: Interpretation line suggested by the Commission as regards the application of Directive 85/337/EEC to associated/ancillary works
- Commission Support assessment tools, Tools developed to support the assessment of the marine environment under the MSFD
- Commission Staff Working Document, Better Regulation Guidelines
- European Environment Agency Land and Ecosystem Accounting - European Topic Centre Terrestrial Environment, LEAC methodological guidebook

- EMEC, Environmental impact assessment (EIA) guidance for developers at the European Marine Energy Centre
- European Investment Bank, Methodologies for the Assessment of Project GHG Emissions and Emission Variations
- Global Marine Environment Protection, Initiative
- Global Marine Information System, Environmental Marine Information System /
- IEMA Quality Mark Article: 'What are the changes of that' – Probability and its Role in Determining Impact Significance
- Imperia (EU LIFE+ funded project), Improving Environmental Assessment by Adopting Good Practices and Tools of Multi-criteria Decision Analysis
- Jalava, K., et al., (2010) Quality of Environmental Impact Assessment: Finnish EISs and the opinions of EIA professionals, Impact Assessment and Project Appraisal, 28:1, 15-27
- Justice and Environment, Good Examples of EIA and SEA Regulation and Practice in five European Union Countries, 2008
- Lawrence D.: Significance Criteria and Determination in Sustainability-Based Environmental Impact Assessment
- Netherlands Commission for Environmental Assessment & CBD-Ramsar-CMS, Voluntary Guidelines on biodiversity-inclusive Environmental Impact Assessment
- OSPAR, Assessment of the Environmental Impact of Offshore Wind-farms
- Renewables Grid Initiative, Good Practice of the Year 2016 award
- RPS, Environmental impact assessment practical guidelines toolkit for marine fish farming
- Schmidt, M., Glasson, J., Emmelin, L. and Helbron, H., Standards and Thresholds for Impact Assessment, 2008.
- Scottish Natural Heritage, A handbook on environmental impact assessment: Guidance for Competent Authorities, Consultees and others involved in the Environmental Impact Assessment Process in Scotland

[redacted]

- Sixth Framework Programme, Specific Targeted Research or Innovation Project Risk Assessment D 3.2 Report WP 3

  [redacted]

- Slootweg, Roel; Kolhoff, Arend, Generic approach to integrate biodiversity considerations in screening and scoping for EIA
- UK Environment Agency: Environmental Impact Assessment (EIA), A handbook for Scoping projects

  [redacted]

- UK Department of Energy & Climate Change, Guidance notes on the offshore petroleum production and pipelines (assessment of environmental effects) regulations 1999(as amended), October 2011

  [redacted]

- UNFCCC, Highlights of the contribution of the Nairobi work programme, Assessing climate change impacts and vulnerability, making informed adaptation decisions

  [redacted]

KH-04-17-939-EN-N

Publications Office

Submission number: 007

Date submission received by PINS: 20/07/2022

Name: Brown&Co on behalf of Honingham Aktieselskab

Description: Comments

From: [redacted]
To: A47 NorthTuddenham to Easton
Subject: A47 North Tuddenham to Easton RIS
Date: 20 July 2022 12:00:43
Attachments: [redacted]

Dear Sir

We wish to submit further comments by way of an update for the Examining Authority.

Please could you confirm receipt and that this is the appropriate way to present an update rather that uploading to the PINS website.

Kind regards

Charles
Charles Birch, FRICS FAAV
Land Agent, Partner

BROWN & CO

For full details of all our services, please visit our Website

For and on behalf of Brown & Co - Property & Business Consultants LLP

[redacted]

Norwich Office, The Atrium, St. George's Street, Norwich, Norfolk, NR3 1AB, United Kingdom

General Comment –
On behalf of Honingham Aktieselskab - A47 North Tuddenham to Easton RIS

Scheme Reference: **TR010038**
Unique Reference: **2002 8284**

Purpose of representation:

General Comment by way of an update

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1. Background

The Examining Authority may recall discussions between the Applicant and Honingham Aktieselskab regarding the suitability of the proposed embankments to protect the integrity of the Easton Estates retained property, and objection to the realignment of the scheme in a northerly direction.

2. Developments

The owners have continued to discuss scheme details with the Applicant.

Although the Owners would prefer a higher embankment, we are pleased to notify the Examining Authority that through collaboration, agreement has been reached about the detail of the landscaping embankment to be provided.

The Owners would also like to stress that they remain opposed to the realignment of the scheme works in a northerly direction.

Brown & Co
20-07-22

Submission number: 008

Date submission received by PINS: 26/07/2022

Name: Mr. Neil Alston

Description: Comments

From: ALAlston Accounts
To: A47 NorthTuddenham to Easton
Cc: [redacted]
Subject: Unique Reference: NTUD-AFP106
Date: 26 July 2022 09:21:39
Importance: High

Dear Sir/Madam

TR010038 – A47 North Tuddenham to Easton

There is an ongoing discussion concerning where the eco planting should be.

The Planning Inspectorate has suggested that this should be on the left-over land at the corner of Wood Lane and the A47, however in previous discussions we have suggested that the section of land between Berry's Lane and Church Lane on the other side of the A47 is already semi wild with badger setts onsite and this could be offset to cover the eco planting requirement.

We would appreciate if this could be confirmed.

Kind regards

Claire Howard
For and on Behalf of David Neil Alston
[redacted]

Submission number: 009

Date submission received by PINS: 26/07/2022

Name: Bryan Robinson

Description: Comments

[redacted]

26th July 2022

A47 North Tuddenham to Easton Examination,
National Infrastructure Planning,
Temple Quay House,
2 The Square Bristol,
BS1 6PN
For the attention of Rachel Dominey and Kevin O'Hanlon, Senior Planning Officers DfT

By email only to: A47NorthTuddenhamtoEaston@planninginspectorate.gov.uk .

A47NTE – Traffic Forecasts and Carbon emissions.

I refer to the letter dated 19 July 2022 from the Department for Transport (DfT) requesting comments to the responses to the Department's earlier letter of 27 June 2022.

The following discusses matters in the National Highways (NH) submission dated 8 July 2022.

In addition to commenting as invited, I also take the opportunity to provide an update of the Norwich Western Link (NWL) since my letter of 8 July 2022.

National and Local Carbon Budgets Targets

NH continues to state that *"The carbon budgets are set at a national geographical scale.* ***The NPSNN does not require assessment against any local or regional targets****. The only statutory targets are those set at a national level".* [Emphasis added]

This statement again fails to recognise paragraph 4.4 of NNNPS which states "*In this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and* ***local levels****. These may be identified in this NPS,* ***or elsewhere***". [Emphasis added]

NH provides a reference to making assessments against national targets only at the footnote on page 6 in the 8 July 2022 response citing "*This point was also explored in recent decision letters such as at the M54 to M6 Link Road where the Secretary of State accepted that the only statutory carbon targets are those at a national level*".

This extract is selective in failing to quote the full sentence at paragraph 46 of the M54 to M6 Link Road decision letter which reads "*The Secretary of State accepts that the only statutory carbon targets are those at a national level* ***and notes that neither the Applicant nor any other party has suggested that there are non-statutory carbon targets at any other level that may need to be considered***". [Emphasis added]

The A47NTE differs in this respect that the interested parties have suggested sub-national targets from early in the DCO examination of the scheme. It is beside the point that only 'emerging' rather

than adopted or statutory budgets were available at a sub-national level during the examination. If, as I contend, such an assessment was necessary to understand the true significance of the emissions, then it has to be carried out regardless of whether the budgets were finalised or have a statutory underpinning or not.

The Applicant has had ample opportunity to make such an assessment and was given extensive details to enable this from another interested party, Dr Andrew Boswell, at the examination as early as 1 September 2021 in his written submission ref REP1-023.

This submission by Dr Boswell not only referenced 3 readily accessible sets of data but made indicative assessments against them across the Local Authority areas of Breckland, Broadland, Norwich and South Norfolk, which corresponds to NH study area.

Norfolk County Council (NCC) indicated at the adoption of LTP4 Strategy in November 2021 that it would provide carbon targets in its forthcoming Implementation Plan. It is a significant omission that the Applicant never referred to this emerging set of sub-national targets.

The Secretary of State is now advised that the emerging carbon reduction targets in the draft Implementation Plan have been authorised through the formal adoption by NCC on 19 July 2022 of the Local Transport Plan (LTP4), providing a further set of sub-national carbon targets for consideration.

National Carbon Budgets

NH provides a table of Carbon budgets in its 8 July 2022 response which purports to compare the previously reported differences between the Do Something (DS) and Do Minimum (DM) scenarios for the proposals against the upper and lower trajectories in the government's Transport Decarbonisation Plan (TDP).

The Applicant has provided no explanation of how these comparative ranges have been calculated and what the results show or indeed prove.

It is noted that the Applicant refers to the method as "a sensitivity assessment using the TDP trajectory" and I refer to Dr Boswell's submission of 8 July 2022 in which he highlights that this is not a sensitivity test but rather the application of unproven factors to the traffic model data.

The Applicant must explain how correctly quantified carbon emissions for the A47NTE scheme compare to what is necessary to remain within the trajectory range in TDP. I have added additional rows to the table which show, without agreeing to either the DS - DM figures or the trajectory figures, the increases from the scheme in relation to the TDP trajectory range for each of carbon budget periods.

	Carbon Budgets - Upper Trajectory		
	4th (2023 – 2027)	5th (2028 -2032)	6th (2033 – 2037)
National Carbon Budget (tCO_{2e})	1,950,000,000	1,725,000,000	965,000,000
Scheme DS – DM (tCO_{2e})	111,626	40,695	41,771
DS – DM based on TDP upper trajectory (tCO_{2e})	110,673	35,963	34,833
Scheme - Percentage above/below upper trajectory (tCO_{2e})	+0.85%	+11.63%	+16.61%

	Carbon Budgets – Lower Trajectory		
	4th (2023 – 2027)	4th (2023 – 2027)	4th (2023 – 2027)
National Carbon Budget (tCO_{2e})	1,950,000,000	1,950,000,000	1,950,000,000
Scheme DS – DM (tCO_{2e})	111,626	40,695	41,771
DS – DM based on TDP lower trajectory (tCO_{2e})	110,486	35,209	32,699
Scheme - Percentage above/below lower trajectory (tCO_{2e})	+1.21%	+13.48%	+21.72%

(*Note for clarity, it should be noted that the upper trajectory is the slower rate of carbon reductions to achieve net zero by 2050.*)

If anything this submission by NH indicates that the increases in emissions generated by A47NTE are higher than both the upper and lower trajectories in TDP, meaning that **the targets will not be met**.

NH continues to use the national carbon budgets for all sectors, but this is over simplistic and ignores the later TDP and the Net Zero Carbon Strategy (NZS) carbon targets bespoke to transport.

National Transport Emission Targets

The Government's Energy White Paper – "Powering of Net Zero Future" published in December 2020 noted transport emissions at 124.4MtCO_{2e} in 2018 and set out 6 non-planning policies to achieve net zero by 2050. The Department of Business, Energy and Industrial Strategy (BEIS) followed this with trajectories to achieve net zero for each sector, the latest version of which is v1.1 05 04 2022. Worksheet 3v sets the upper and lower trajectories for transport.

The transport emissions were 28% of the total emissions in 2018 of which domestic road transport accounted for 92%.

As a comparative to the overall national budgets across all sectors, I include the predictions for transport for each carbon budget period based on worksheet 3v.

	4th (2023 – 2027)	5th (2028 - 2032)	6th (2033 – 2037)
National Carbon Budget (tCO_{2e})	1,950,000,000	1,725,000,000	965,000,000
Lower end of NZS range for all transport	556,800,000	401,100,000	215,100,000
As percentage of National Budgets	28.55%	23.25%	22.29%
Lower end of NZS range for road transport @ 92%	512,300,000	369,000,000	197,900,000
As percentage of National Budgets	26.27%	21.39%	20.51%
Upper end of NZS range for all transport	500,900,000	337,200,000	146,000,000
As percentage of National Budgets	25.68%	19.55%	15.13%
Upper end of NZS range for all transport @ 92%	460,800,000	310,200,000	134,300,000
As percentage of National Budgets	23.63%	17.98%	13.91%

It should be noted that the percentage of transport to the whole is required to reduce with both the upper and lower end of the range. This indicates that transport emissions are required to reduce faster than other sectors to met the overall budget targets.

I consider that use of and comparison with the total national carbon budgets for all sectors for planning applications of road schemes is no longer applicable with the publication of the government tables for transport.

Significance

NH claim that the scheme will not have a material impact on the Government's ability to meet its carbon reduction targets, thus enabling the Secretary of State to approve the DCO under paragraph 5.18 of NNNPS quoting that the DS – DM of A47NTE is approximately 0.004% of the combined 4th, 5th and 6th carbon budgets[1].

As discussed above, I consider that the comparison should be against the road transport pathway to net zero which adjusts this figure to 0.02% [total DS-DM emissions, 194,092 ÷ total NZS lower trajectory 1,079,200,000 = 0.018%] and 1.18% against the local targets in the local LTP4 [194,092 ÷ LTP4 targets 2023 to 2037 16,474,840 = 1.18%].

These figures need to be seen in the context that they relate to a small fraction of the emissions from the scheme, the DS – DM fraction. It ignores the impact of the carbon emissions inherent in the DM scenario which result from other concurrent land-based developments and road schemes including A47 Blofied to North Burlingham, A47 Thickthorn Junction and the Norwich Western Link planned in the study area.

The basic premise of NNNPS is that the non-planning policies will "*ensure that any carbon increases from road development do not compromise its overall carbon reduction commitments*".

If the hypothesis holds true any excess above the budgets must be due to the carbon emissions in the DM scenario which result from both the land-based developments and road schemes in the traffic model, including other large road schemes over similar timescales.

If the results of such analysis fall outside the upper and lower trajectories, I suggest the increases of 0.02% and 1.18% from the A47NTE scheme will further add to the challenges and jeopardise the ability of Government to meet its carbon reduction plan targets.

No attempt has been made to determine this in A47NTE. Such an assessment is necessary to understand the true significance of emissions from the development and therefore should be carried out.

I provide an indicative method below in which I use comparison of the A47NTE DM emissions against known budgets which are the national transport trajectories and LTP4, based on the respective lengths of roads.

In this exercise, I have first established the length of roads for each comparative.

The UK road network is 398,839 kilometres (excluding Northern Ireland)[2].

Norfolk has 10,016.3 kilometres of roads[3].

[1] REP3 – 014 paragraph 14.8.8
[2] 2021 figure from RDL0203
[3] Figure from 2021 RDL0202a

The length of roads in the study area (NATS 2015) is not given in the application but the study area is shown at figure 4.1 in document '7.1 Case for the Scheme', covering central Norfolk incorporating parts of Breckland, Broadland and South Norfolk and the whole of Norwich.

Unfortunately I have been unable to find the road lengths for the individual Local Authorities (LAs) but note that the County Council maintains a list of streets which is annotated within the LAs. The total length of the listed streets is 14,197km and I have had to ignore that this differs from the highway statistic above of 10,016km for Norfolk, assuming that the extra relates to footpaths etc.

The street lengths for the 4 LAs is 7,764km which I have adjusted to reflect 50% reduction for Breckland, 30% reduction for Broadland and 80% reduction for South Norfolk. The result gives 3,614 km which I have rounded down to 3,500km. (It is noted that a spreadsheet on Carbon emissions for the NWL OBC, obtained under a FOI request, is calculated on a road length in the NATS 2019 study area of 1,527km (50% of the one-way link lengths) although this may change with the Addendum to the OBC as below.

The following table summarises the comparisons.

	4th (2023 – 2027)	5th (2028 -2032)	6th (2033 – 2037)
Scheme DM (tCO_{2e})	2,848,032	4,640,659	4,508,084
Lower end of NZS range for road transport @ 92%	556,800,000	401,100,000	215,100,000
Upper end of NZS range for all transport @ 92%	460,800,000	310,200,000	134,300,000
Scheme DM pro rata (÷ 3,500km x 398,839km)	324,544,639	528,821,656	513,714,204
	Within range	Above range by 32 – 70%	Above range by 139 – 280%
LTP4 for whole of Norfolk	7,820,270	5,633,480	3,021,090
Scheme DM pro rata (÷ 3,500km x 10,016km)	8,150,254	13,280,240	12,900,848
	Over target by 22%	Over target by 136%	Over target by 327%

This comparison shows that there are flaws in the basic premise of the NH data.

NH states that its figures for carbon emissions are conservative and likely overestimated as the uptake of new electric vehicles in future years is expected to be higher than the proportions used in the Scheme assessment.

I wholly accept that this is probably correct but question why NH therefore continues with outdated and inadequate data.

The data is issued by various government departments and NH which must raise the question whether it is still fit for purpose to give confidence and assurances to the public that carbon reductions are being accurately assessed in road projects within the National Network.

It is crucial for the public to understand and have confidence in Transport Planning Examinations, particularly in the implications for climate change.

I would respectfully suggest that the current methodology and outdated data used and vigorously defended by NH is simply not trustworthy.

NWL Update

Finally, I would draw attention to the implications of changes to the traffic modelling for the NWL project being undertaken by NCC. The NCC Cabinet approved an Addendum to the OBC previously submitted to DfT in July 2021 which provides revised traffic vehicle kilometres as;

	OBC	Addendum
Opening Year 2025 (v/km)	4,087,222,971	48,850,573
Design Year 2040 (v/km)	4,766,655,716	137,491,452

No details have been provided as to why these changes are necessary or even what they mean.

In the 8 July 2022 response NH states under **Traffic models (different models by the Applicant and NCC)** – "*The 'Applicant's Response to the Relevant Representations' (REP1-013) explains why the Applicant and NCC used different traffic models, but that checks have been made to ensure they align; the traffic models use a consistent traffic modelling methodology, but are independent of one another and will vary due to different development timelines (e.g. base year model, assumptions as to opening year) and different effects on the surrounding local network*."

No evidence has been provided to the public, the examination, or the SoS, to support this position, especially the claim that the traffic models align. I refer to my submission of 8 July 2022 which presented examples showing that the traffic models quite clearly give different descriptions of the transport network in the study area, and are inconsistent with major misalignments in project levels of traffic.

Notwithstanding the misalignment between NH modelling of the A47NTE and NCC's modelling of the NWL, NCC has now produced further data which is internally inconsistent itself as shown above. The SoS must be satisfied that the material provided by the Applicant is sufficient for him to reach a reasoned conclusion on the significant effects of the proposed development on the environment. Carbon emissions are a significant issue in recent DCO decisions, and the Applicant has not made, nor engaged, satisfactorily in clarifying the issues involved in the different traffic models.

No doubt the Secretary of State must seek clarification as to the impact of these latest and significant NWL revisions have an on A47NTE Environmental Statement and Climate.

Yours sincerely,

[redacted]

Bryan Robinson (IP reference 20028154)

Submission number: 010

Date submission received by PINS: 05/08/2022

Name: Richard Hawker

Description: Comments

Department for Transport

By e-mail to Planning Inspectorate:

A47NorthTuddenhamtoEaston@planninginspectorate.gov.uk

[redacted]

5 August 2022

F.A.O. Kevin O'Hanlon, Senior Planning Manager

Dear Mr O'Hanlon,

A47 North Tuddenham to Easton dualling scheme TR 010038 - Further comments on responses to SoS's third round of consultation

Further to my e-mail letter to you of 26 July, please can you accept this further e-mail letter regarding ecological issues, following more time to assimilate more information from other parties.

I Bats

My letter of 26 July expressed concerns relating to significant impacts that are likely to occur to bats if the scheme were to be consented.

I attach a letter to you from Mr Mike Jones, Conservation Officer at Norfolk Wildlife Trust (NWT) sent on July 8th. I understand that this letter has not been published on the PINS website. If this is because NWT did not register as an Interested Party, I respectfully point out that Inspector Hunter used his discretion to accept a submission from NWT at Deadline 4 on 18th November 2021, which provides a precedent for material from this respected, local conservation body to be accepted into the examination. **In any case, by attaching the NWT letter here, I am, hereby, making it an annex to my own letter, and therefore material information before the SoS, as a registered Interested Party.**

Mr Jones' letter states that Norfolk Wildlife Trust remains seriously concerned that the predicted residual impacts on bats are given as Major Adverse, due to the lack of any certainty in the success of proposed mitigation measures. NWT, therefore, has **significant concerns** that there is insufficient evidence in the Environmental Statement (ES), to demonstrate that the impacts of the scheme on the Favourable Conservation Status of local bat populations will be avoided. NWT's concerns include that it has not been demonstrated that the serious impact the road would have on bats can be **mitigated**, and especially that methods are proposed for the A47NTE scheme which have been previously shown to fail on other projects, including locally on the Norwich Northern Distributor Road (NDR) where a bat colony has already been lost. NWT also have grave concerns over the untested use of tree canopies for mitigation.

Further, NWT is concerned that outstanding survey work relating to bats remains to be completed this summer, and past the proposed date for the SoS decision. These surveys should be completed before a decision is made, and it would be unacceptable if a decision were to proceed without full information. Without the full knowledge of the most recent surveying, it is not possible to know the scale of the bat movements in relation to the scheme, and it is therefore not possible to determine if mitigation can be effective, or not. I wish to re-emphasise NWT's point that they do regard the deferral of mitigation responsibilities to the post-permission monitoring period, should the proposed mitigation measures fail, as not providing sufficient evidence that the Favourable Conservation Status of these populations would be maintained.

I also state clearly on record that maintaining Favourable Conservation Status of rare and protected bat species is a matter for the planning decision, and it is not acceptable to consider that this issue can be deferred to the Environmental Management Plan (EMP), or to a subsequent Natural England licence.

2 River Tud

In Annex 2, I attach the Deadline 9 letter of 8th February 2022 from the Environment Agency in which they refer to previously raising concerns that the impact of the scheme on the ecology of the River Tud and two tributaries had not been fully assessed, particularly the effect of shading caused by the proposed River Tud bridge crossing.

In my letter to you on July 26th 2022, I reported a recent survey from a Citizen's Science group which finds that the Tud is characteristic of a Sub-type 1 chalk river and that it hosts an important range of specialised chalk-stream floral and faunal communities. Further, as laid out in that letter the Applicant's environmental statement has not assessed the river in terms of the appropriate river habitats units. As such, the Applicant's ES has ignored the River Tud in its own right, and therefore the ES has not made an "adequate assessment"; it has for all intents and purposes made no assessment at all. Please note these characteristics of the River Tud highlighted in my last letter which are not covered at all in the ES:

- Sub-type 1 chalk river characteristics as demonstrated by its hosting of an important range of specialised chalk-stream floral and faunal communities;
- a 'priority stonewort habitat', specifically Annex I habitat type 3260 under JNCC's categorisation. The River Wensum has this same classification, and this is the primary reason for its SAC status;
- sightings of the 'globally threatened' white-clawed crayfish which is also another reason for the River Wensum's SAC status;
- chalk-stream communities that occur at frequent intervals along the mid-reaches of the River Tud clearly demonstrate the characteristics of the NVC (National Vegetation Classification) community A17. At least four such communities exist along the length of the River Tud, **but none has been identified in the Environmental Statement nor in the botanical surveys submitted by the Applicant**;
- specifically, an aquatic macrophyte survey has not been carried out, as would be expected for a priority habitat, which the River Tud is, being a rare chalk stream.

Currently, the ES is legally defective as the River Tud has not been surveyed comprehensively, and features that are of significant conservation status have been ignored, and mitigation strategies for these features have not been provided.

The response from the Environment Agency, of 8th February 2022 and at Annex 2, refers extensively to the River Condition Assessment (RCA) report. I have not been able to find this within the Examination Library, so am not able to seek an independent ecologist's opinion on its conclusions. I have to presume also the ExA has not had access to this potentially-important report to inform his report to the SoS. Likewise, it is not clear whether this report has been made available to the SoS. There is, therefore, further doubt as to whether the environmental information available to the SoS is complete and adequate.

3 EIA Regulation 21(1)

From the above, and from the previous representations from me and other interested parties, I have serious misgivings about the lawfulness of the ES, as it is legally defective -

- until the bat full survey information from this summer has been appended to it, and the implications of the survey results have been formulated into a mitigation strategy that can demonstrate maintenance of the Favourable Conservation Status of the local bat populations;

- until proper, comprehensive surveys of the River Tud have been carried out to the required ecological standards, on which necessary mitigation strategies can be developed;

- until a cumulative assessment of carbon emissions with other existing and/or approved projects is provided (it currently does not exist): I refer you to Dr Andrew Boswell's submissions, including recent letters on this matter.

As you will be aware, under EIA Regulations ("the 2017 regulations") the Secretary of State must give consideration as to whether development consent should be granted (regulation 21(1)), and this includes consideration as to the adequacy of the ES.

Reg 21(1) contains a series of sequential steps the Secretary of State must follow. By Reg 21(1)(a), he must 'examine the environmental information' which includes the ES. Step (a) cannot be lawfully completed by examination of the ES which is defective in three respects, laid out above. In Step (b), the Secretary of State must 'reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account the examination referred to in sub-paragraph (a)'. As Step (a) currently cannot be lawfully taken, then Step (b) cannot lawfully be completed either. The Secretary of State cannot reach a properly-reasoned conclusion on significant effects of the scheme, as the information currently presented is legally inadequate.

4 Other legal issues

You may know that a claim for Judicial Review has been filed to the Court on the A47 Blofield to North Burlingham (A47BNB) project on August 2nd 2022. The claim relates to there being no cumulative carbon assessment made on the A47BNB scheme, in breach of the 2017 regulations. The claimant, Dr Andrew Boswell, has also provided substantial evidence, both at the examination, and at the post-examination consultations, demonstrating **that it is also the case that no cumulative carbon assessment has been made on the A47 North Tuddenham to Easton project**. Please refer to this material.

Apart from the other issues raised, the Secretary of State may want to give consideration to delaying a decision on this project until the outcome of that challenge is known.

Thank you.

Yours faithfully,

Richard Hawker IP20028320

Annex 1: Letter to DfT from Mr Mike Jones, Conservation Officer at Norfolk Wildlife Trust (NWT) sent on July 8th

Annex 2: Environment Agency, Deadline 9 submission (REP9-040)

Copies to: transportinfrastructure@dft.gov.uk

Dr Andrew Boswell

Mr Mike Jones

08 July 2022

A47 North Tuddenham to Easton dualling – further comments

We previously submitted comments in November 2021, expressing concerns at the scale of the ecological impacts of the proposal, and objecting due to the significant impacts that are likely to occur, particularly to legally protected species in the vicinity of the route. We note the information provided in Natural England's most recent response covers other protected species but that their comments on bats are still awaited.

We remain seriously concerned that the predicted residual impacts on bats are given as Major Adverse, due to the lack of any certainty in the success of proposed mitigation measures. We do not regard the deferral of mitigation responsibilities to the post-permission monitoring period, should the proposed mitigation measures fail, as providing sufficient evidence that the Favourable Conservation Status of these populations would be maintained. There is no evidence that the proposed mitigation measures would be successful, and equally no certainty that post-construction mitigation would be able to restore any damage to local bat populations, as the scale of the impacts predicted by the ES is major adverse.

Therefore we repeat our previous recommendation that consent should only be granted if it can be robustly demonstrated that impacts on the Favourable Conservation Status of bat species near the route will be avoided. Our comments from November 2021 (REP4-045) still stand, but we make the following additional comments with reference to documents in the Examination Library.

<u>ES Biodiversity Chapter,</u>
Environmental Statement Volume 6.1, table 8-14 (Predicted significance of residual effects) states that for bats, there will be a Major Adverse residual effect, with a Large Adverse significance, due to direct mortality from roost destruction and traffic collisions, disturbance of known bat roosts from noise, vibration and light, permanent loss of foraging habitat, severance of commuting routes and foraging areas resulting in avoidance and abandonment of habitats and roosts and disturbance from culverting and bridging. It is stated that the residual large adverse impact is precautionary as there is no published data that can demonstrate that the proposed mitigation would be successful.

<u>REP4-015 HE Deadline 4 submission – 9.20 Applicant's Written Summary of Oral Submissions at ISH2, November 2021</u>
We are concerned that lessons learned on the nearby Northern Distributor Road (NDR) regarding bat mitigation are not being applied to this proposal. The applicant's response to question 3.0.10 regarding mitigation refers to the proposed use of 'hop-overs', the planting of mature trees either side of the road to encourage bats to fly up and over traffic to avoid traffic collision impacts and maintain connectivity. It also notes that there are few studies assessing the effectiveness of hop-overs so there is uncertainty over their effectiveness as mitigation.

The NDR included bat gantries as mitigation for similar severance and traffic collision impacts on bat commuting routes crossed by the road. However, it is now widely understood that bat gantries are not effective mitigation and we understand that as such they are not being

proposed for either this proposal or the emerging mitigation design for the Norwich Western Link proposal.

We are therefore seriously concerned that a similarly untested mitigation measure is being put forward for this proposal, without any reliable evidence that the significant impacts on local bat populations would be mitigated for. We recommend that the lessons of the NDR are applied and that untested mitigation methods are not accepted as evidence that adverse impacts on protected species can be avoided.

REP2-014, Deadline 2 Submission – 9.6 Applicant's Response to the Examining Authority's First Written Questions (ExQ1)

Item 4 on p18 of this representation refers to bat surveys which will be updated between May and August 2022. Therefore there is still outstanding survey work, which suggests that the applicant's understanding of the baseline condition of the local bat population and the potential impacts is incomplete. As such, we recommend that the ecology chapter of the ES (dated March 2021) is updated once the 2022 bat surveys have been completed, before any decision.

Conclusion

We remain significantly concerned that there is insufficient evidence in the application to demonstrate that impacts on the Favourable Conservation Status of local bat populations will be maintained. We maintain that consent should only be granted if it can be robustly demonstrated that impacts on the Favourable Conservation Status of bat populations near the route can be avoided.

Mike Jones
Conservation Officer

Via National Infrastructure Planning On-line portal

Our ref: AE/2022/126831/01-L01
20028349

Your ref: TR010038

Date: 8 February 2022

Dear Sir/Madam

APPLICATION BY HIGHWAYS ENGLAND FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE A47 NORTH TUDDENHAM TO EASTON PROJECT

DEADLINE 9 SUBMISSION

We had previously raised concerns that the impact of the scheme on the ecology of the River Tud and two tributaries had not been fully assessed, particularly the effect of shading caused by the proposed River Tud bridge crossing. We requested that the Applicant provide further information to demonstrate that appropriate measures could be provided to mitigate the effects on the River Tud and the Oak Farm and Hockering tributaries, as a result of shading and the permanent loss of riparian habitat. We have been in discussion with the Applicant on how this should be achieved.

On 20 January 2022, the Applicant provided us with a copy of the River Tud - River Condition Assessment (RCA) Baseline Report, prepared by Norfolk Rivers Ecology Ltd and dated 20/01/22. We reviewed the RCA and have confirmed to the Applicant that we are satisfied with the survey methods, the results at this stage and with the river restoration proposals.

The RCA confirms that there will be adverse impacts on these watercourses but identifies appropriate restoration techniques to provide mitigation and a small amount of net-gain.

The report highlights that the condition of the Tud will deteriorate from 'Fairly good' to 'Fairly poor/Poor', because of shading and its impacts on ecology and geomorphology. The proposed restoration of the Gypsy Lane – Church Lane reach will result in a 'Net Gain' in credits to offset this deterioration and will contribute credits to offset the net loss due to the impacts of culverting on Rickwood Farm ('Oak Farm') and Hockering tributaries.

We encourage the Applicant to seek to secure as much overall net gain as possible

East Anglia area (East) - Iceni House
Cobham Road, Ipswich, Suffolk, IP3 9JD
General Enquiries: [redacted]
Weekday Daytime calls cost 8p plus up to 6p per minute from BT Weekend Unlimited.
Mobile and other providers' charges may vary
Email: enquiries@environment-agency.gov.uk
Website: [redacted]

given the irreversible and permanent impacts that the crossings and culverts will have on the River Tud. There are also opportunities beyond the scope of the study which could be considered during the detailed design and included in the Landscape and Ecology Management Plan.

The Report recommends that a further Water Framework Directive (WFD) assessment is completed to study the potential effects of the proposed mitigation and improvement works. The WFD assessment should pick up on the impacts of shading, and also add weight to the restoration proposals which are in line with WFD mitigation measures for the River Tud. We would agree that the further WFD assessment should be prepared as the mitigation develops.

The detailed design of the mitigation and enhancement measures is proposed to be included as part of the Landscape and Ecology Management Plan, which will form Annex B.5 of the Environmental Management Plan. The Environment Agency are a named consultee in respect of Requirement 4: Environmental Management Plan.

We also note that the updated Environmental Management Plan (Document 7.4) submitted by the Applicant at Deadline 7 [REP7-036] (Tracked), includes a specific reference to the RCA within Table 3.1 (Record of Environmental Actions and Commitments). BD12 states that "Mitigation and enhancement recommendations for the River Tud to be agreed with the Environment Agency and informed by the river condition survey carried out in October to December 2021". And: "Landscape and Ecology Management Plan to be developed in consultation with the Local Authority Biodiversity Officer and Environment Agency".

We are therefore satisfied that we will be able to review and comment on the final designs for the restoration techniques and look forward to working with the Applicant on the implementation of the measures.

Yours faithfully

[redacted]

MR MARTIN BARRELL
Sustainable Places - Planning Specialist

[redacted]

Submission number: 011

Date submission received by PINS: 08/08/2022

Name: George Josselyn on behalf of A C Meynell

Description: Comments

From:	[redacted]
Date:	08 August 2022 19:12:35
To:	A47 NorthTuddenham to Easton
Subject:	Re: A47 TUD (TR 010038) - [redacted]) - post examination submission to the Secretary of State

Dear Mr Baldwin

Can you please pass this email to Ms Dominey for consideration as a post-examination submission to the Secretary of State on behalf of Mr

A C Meynell, the Owner of the [redacted] with the IP reference above (the „Owner“).

I am in correspondence with the Applicant‘s lawyers, Womble Bond Dickinson („WBD“), seeking to conclude binding agreements between the Applicant and the Owner to encompass those items set out in the table of agreed items (Table 3-1) in the Statement of Common Ground between then (filed at REP10-002) as having been agreed between him and the Applicant („SoCG“). Those agreed items were stated in the SoCG (REP10-002, at paras 3.1.3 and 3.1.4) to have been agreed subject to legal agreements being formally secured. Para 3.1.4 confirms also that the agreements would be subject to the main issue between the Owner and the Applicant, (ie the legal agreements to be entered into to but to take effect if and when an Order is made as requested by the Applicant).

The Owner has sought to complete the agreements before the Secretary of State makes his decision, as was envisaged at the time the SoCG was filed with a view to the Examining Authority and the Secretary of State being able to rely on the statements made in it by the parties.

However, neither of the agreements has yet been completed. WBD have indicated in the past week that they wish to conclude one agreement (the Deed of Undertaking referred to in Table 3-1 of the SoCG) but at the time of writing this submission they have not responded in any way to a draft of the second (the Heads of Terms Agreement referred to in Table 3-1) submitted to them on 4 July 2022 or given any indication as to when or whether they propose to consider it. Both agreements contain provisions included in the SoCG as having been fully agreed at the time of its signature and submission to the Examining Authority and require actions to be taken by the Applicant if the Order is made, upon implementation of the Scheme and before commencement of the Works envisaged by it as well as after.

Since the Applicant has not legally committed to either agreement the Owner is concerned that he will be unable to rely upon the terms agreed by the SoCG if the Order is made unless the Applicant is directed by the Secretary of State in the Order, if he is minded to make it, to honour the commitments stated to have been agreed in the SoCG.

THE owner accordingly requests the Secretary of State, if he is minded to make the Order sought, to include a provision in it, or by such other means as he considers appropriate, to require the Applicant to undertake to him (the Sectary of State) to provide the Owner prior to implementation of the Scheme with a legally binding obligation to honour its commitments set out in Table 3-1 of the SoCG and to act reasonably in completing and executing agreements before Implementation which fairly reflect all the matters stated in it to have been agreed between the Applicant and the Owner.

The Owner is mindful that the Secretary of State is also the sole shareholder of and the primary fundier of the Applicant, and will be concerned that his company should act appropriately in implementing matters which third parties have agreed with it and on which they have placed reliance, as the Owner has in this case.

Kind regards

George Josselyn

For and on behalf of A C Meynell.

Sent from my iPad

Submission number: 012

Date submission received by PINS: 11/08/2022

Name: George Josselyn on behalf of A C Meynell

Description: Comments

From: [redacted]
To: A47 NorthTuddenham to Easton
Cc: [redacted]
Subject: Re: A47 TUD (TR 010038) - [redacted] IP REF 2002/8353) - post examination submission to the Secretary of State - follow up
Date: 11 August 2022 11:57:47

Dear Mr Baldwin

Further to my email below on 8 August (2012 European time, 1912 BST), you will be pleased to learn that National Highways and Mr Meynell have now resolved their differences over implementation of the SoCG items agreed between them. National Highways will be writing to you shortly in terms which Mr Meynell has agreed with them, in confirmation of this and until you receive that letter which will confirm his agreement to withdraw his submission below, which I note has not yet been published, I should be grateful if you would invite the SoS to take no further action upon it.

I am copying this email to National Highways' lawyers, Womble Bond Dickinson, with the copy below of my earlier email to you for information.

Kind regards
George Josselyn

Sent from my iPhone

On 8 Aug 2022, at 20:12, George Josselyn [redacted]@gmail.com> wrote:

Dear Mr Baldwin

Can you please pass this email to Ms Dominey for consideration as a post-examination submission to the Secretary of State on behalf of Mr A C Meynell, the Owner of the [redacted] with the IP reference above (the „Owner").

I am in correspondence with the Applicant's lawyers, Womble Bond Dickinson („WBD"), seeking to conclude binding agreements between the Applicant and the Owner to encompass those items set out in the table of agreed items (Table 3-1) in the Statement of Common Ground between then (filed at REP10-002) as having been agreed between him and the Applicant („SoCG"). Those agreed items were stated in the SoCG (REP10-002, at paras 3.1.3 and 3.1.4) to have been agreed subject to legal agreements being formally secured. Para 3.1.4 confirms also that the agreements would be subject to the main issue between the Owner and the Applicant, (ie the legal agreements to be entered into to but to take effect if and when an Order is made as requested by the Applicant).

The Owner has sought to complete the agreements before the Secretary of State makes his decision, as was envisaged at the time the SoCG was filed with a view to the Examining Authority and the Secretary of State being able to rely on the statements made in it by the parties.

However, neither of the agreements has yet been completed. WBD have indicated in the past week that they wish to conclude one agreement (the Deed of Undertaking referred to in Table 3-1 of the SoCG) but at the time of writing this submission they have not responded in any way to a draft of the second (the Heads of Terms Agreement referred to in Table 3-1) submitted to them on 4 July 2022 or given any indication as to when or whether they propose to consider it.

Both agreements contain provisions included in the SoCG as having been fully agreed at the time of its signature and submission to the Examining Authority and require actions to be taken by the Applicant if the Order is made, upon implementation of the Scheme and before commencement of the Works envisaged by it as well as after.

Since the Applicant has not legally committed to either agreement the Owner is concerned that he will be unable to rely upon the terms agreed by the SoCG if the Order is made unless the Applicant is directed by the Secretary of State in the Order, if he is minded to make it, to honour the commitments stated to have been agreed in the SoCG.

THE owner accordingly requests the Secretary of State, if he is minded to make the Order sought, to include a provision in it, or by such other means as he considers appropriate, to require the Applicant to undertake to him (the Sectary of State) to provide the Owner prior to implementation of the Scheme with a legally binding obligation to honour its commitments set out in Table 3-1 of the SoCG and to act reasonably in completing and executing agreements before Implementation which fairly reflect all the matters stated in it to have been agreed between the Applicant and the Owner.

The Owner is mindful that the Secretary of State is also the sole shareholder of and the primary fundier of the Applicant, and will be concerned that his company should act appropriately in implementing matters which third parties have agreed with it and on which they have placed reliance, as the Owner has in this case.

Kind regards
George Josselyn

For and on behalf of A C Meynell.

Submission number: 013

Date submission received by PINS: 20/07/2022

Name: George Josselyn on behalf of A C Meynell

Description: Comments

From:	[redacted]
To:	A47 NorthTuddenham to Easton
Cc:	A47 North Tuddenham to Easton RIS
Subject:	A47 TUD (TR 010038) - [redacted] (IP REF 2002/8353) - post examination submission to the Secretary of State - follow up
Date:	11 August 2022 15:32:16

Planning Act 2008 (as amended) and the Infrastructure Planning (Examination Procedure) Rules 2010
Application by National Highways Limited ("the Applicant") for an Order granting Development Consent for the proposed A47 North Tuddenham to Easton Project.

National Highways and Mr Meynell have reached agreement on the final form of the Deed of Undertaking and it is agreed between the parties that this will be signed this week (or shortly thereafter). A commitment has been included in it satisfactory to both parties that each party will act in good faith towards the other in implementing the remaining agreed terms in the SoCG, and on that basis that Mr Meynell's submission of 8 August 2022 (which National Highways has not had sight of) is withdrawn so that no undertaking regarding the [redacted] to the SoS is any longer requested of the Applicant by Mr Meynell.

Many thanks

Glen Owen Senior Project Manager
Major Projects Regional Investment Programme
National Highways | Woodlands | Manton Lane | Bedford | MK41 7LW
Mobile: [redacted]
Web: [redacted]

National Highways Limited | General enquiries: 0300 123 5000 |National Traffic Operations Centre, 3 Ridgeway, Quinton Business Park, Birmingham B32 1AF | [redacted] | info@nationalhighways.co.uk

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