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Examination Principle Issues	• **Climate Change** • **Scope of Development and Environmental Impact Assessment**

SUMMARY

This document is CEPPs' responses to [REP4-051], the Applicant's Written Summary of Oral Submissions at Hearings.

Before detailed responses in sections 5 -13, CEPP lays the groundwork by demonstrating that the assessment of carbon emissions in A47BNB Environmental Statement is ***inherently solus***. This is consistent with there being no mention of cumulative assessment in Chapter 14 which indicates it was never seriously considered as part of the carbon assessment. It is also revealed by the Transport Assessment [REP1-044] designing out cumulative assessment in its DM/DS network assumptions, and the proliferation of conflicting meanings of the word "cumulative", many of which area associated with spatial dimensions which preclude meaningful cumulative assessment. As far as other road projects in the area, the inclusion of these in the Do Minimum network, inflates the Do Minimum network, so that any calculation of delta emissions, as we define them in section 1.3 (eg DS-DM), underestimates the quantum of emissions then carried forward to assessment.

An inventory of the different definitions of "cumulative" which are littered across the Environmental Statement, and their implications for cumulative carbon assessment, is given in section 4. Multiple conflicting definitions, and implied study areas, exist for sub-types of carbon emissions. "Cumulative" is being retrofit bottom-up from the traffic models as they were implemented before cumulative assessment was seriously considered, rather than being done top-down using a projects-based approach as required by the DMRB and EIA Regs.

A key conclusion is that the Applicant never set out to do cumulative carbon assessment in the first place, especially across the other road projects in the area, and this is a failure at the EIA Scoping stage. The Applicant's responses to ExQ1 and at the ISH2 hearing are a futile and desperate attempt to retrofit the Environmental Statement: this includes the new definitions of cumulative, and new claims that aspects of the modelling are "inherently cumulative".

In detailed responses in sections 5 -13, CEPP:

- correct unreliable paraphrasing by the Applicant of our statements at the ISH2
- show the applicant relies on policy documents, which have no action plan with demonstrated proof of delivery of carbon reduction targets, to bolster the false claim that transport emissions can continue to grow through road building, and these will be compensated with very steep reductions in other areas of the economy. This is make-belief, and does not stand

up to the imminent risks we face of a significant failure in meeting carbon budgets, as clearly stated in the Chatham House report and by the Government's own climate advisors.

- CEPP show how the applicant has not given regard to:
  - the EIA Regulations;
  - the EIA guidance (including making no reference to it in the Environmental Statement);
  - the Design Manual for Roads and Bridges;
  - the National Policy Statement for National Networks;
  - defining intentional and specific study areas for carbon emissions, and sub-types of carbon emissions;
  - multi-criteria appraisal of carbon emissions which increases the sensitivity of assessment;
  - that the policy documents they reference and rely upon cannot demonstrate delivery of the relevant carbon budgets.

CEPP provide a detailed response at section 13.3 on the EIA guidance. The Applicant has totally ignored the available guidance in the Environmental Statement, and now attempts to undermine the guidance whilst not referencing any alternative. In not giving any regard to the guidance, the Applicant has failed to comply with NPS NN 4.15 and 4.16 in executing the EIA assessment.

CEPP have also shown that the Environmental Statements of the A47NTE and A47THI schemes, promote the same carbon assessment methodology, which is inherently solus, and these issues raised in thi, and our other submissions, are generic across the schemes. CEPP, therefore, requests of the ExA, at section 2, that the examinations of the A47BNB, A47NTE and A47THI are considered together, and for a joined-up initiative to resolve these issues to be considered by the three ExA's. In practical terms, this would require suspension of each examination under EIA Regulation 20, and then requiring the necessary remodelling and changes to the Environmental Statements for each scheme from a common "written statement" under EIA Regulation 20 (1)(a), (b) and (c). Although the A47NTE and A47THI examinations are at earlier stages, we are writing to the ExA's for these in parallel with the same request.

An update of new information since the Examination opening is provided at section 3, including the Chatham House Climate Change Risk Assessment 2021, Transport Decarbonisation Plan, today's Net Zero Strategy, Norfolk's Local Transport Plan 4, Norfolk County Council's campaign for further A47 schemes, and Norfolk County Council advice on using local transport data for carbon assessment.

Contents

1 INTRODUCTION

1.1 Deadline 5 (D5)

1 This document is CEPP's submission for Deadline 5. It comments on document(s) submitted at D4, being: [REP4-051] 9.15 Applicant's Written Summary of Oral Submissions at Hearings. There are two parts of REP4-051 relevant to this submission:

A. "Agenda Item 4 Climate Change", the section from Page 50 (PDF 53) to Page 63 (PDF 66), divided into sub-sections:

a. 4.1 in entitled "Cumulative effects matters". This section also reproduces in bold the ExA's Hearing Action Point 10, Hearing Action Point 11, Hearing Action Point 12, and Hearing Action Point 13.
b. 4.2 covering whether the Applicant has applied the NPSNN correctly
c. 4.3 covering cumulative climate change effects
d. 4.4 covering various matters

B. "Annex B Climate", the section from a front page (PDF 112) to page 7 of the Annex (PDF 120), and in these sections:

e. 1.1 Introduction
f. 1.2 Derby Junctions and Wisley DCO Application
g. 1.3 Paris Agreement and Nationally Determined Contribution
h. 1.4 The RIS 2 Case
i. 1.5 EIA Regulations and Likely Significant Climate Effects

2 CEPP note that there are circular references between these two sections, and other confusions in the REP4-051 document. Given this, CEPP have made best efforts to interpret them for the ExA, the SoS and the parties.

3 In order to clearly reference statements made by the applicant and others in the three-column layout of part A above, CEPP make and use these abbreviations for each column:

- QIR-ISH2 column: "Questions / Issues Raised at ISH2"
- SAR-ISH2 column: "Summary of Applicant's Response at ISH2"
- AWR column: "Applicant's Written Response"

4 We also note that the Applicant has paraphrased CEPP's contribution to the ISH2, and the paraphrased comments are sometimes also presented out of context. CEPP are concerned that these sections do not accurately reflect our position. The official transcript [EV-015] from an automated system is inaccurate, and not everything may be clearly determined

from the recording [EV-026[1]]. CEPP make correct misrepresentations, or out of context segments, of our position where we can in this document.

5 Throughout this document, the A47 Blofield to North Burlingham, A47 North Tuddenham to Easton schemes and A47 - A11 Thickthorn Junction scheme are referred to as A47BNB, A47NTE and A47THI respectively.

6 In this introduction, CEPP specify other documents to which we make reference from schemes beyond Norfolk as listed below. We provide some definitions at section 1.3. An INDEX of documents previously submitted by CEPP is given at Appendix D.

1.2 Relevant documents from other DCO schemes beyond Norfolk

7 These documents are referred to, with these abbreviations where given:

- "RESP-9.162" : M25 junction 10/A3 Wisley: 9th August 2021 "Applicant's Response to Secretary of State's Letter - 26 July 2021" [TR010030/APP/9.162 (Vol 9) Rev 0]

- A38 Derby Junctions : APP-052 (TR010022 Library), "6.1 Environmental Statement Chapter 14 – Climate"

- A38 Derby Junctions : REP3-026 (TR010022 Library), "8.55 Actions Arising out of Issue Specific Hearing 2 on 11 December 2019 for Deadline 3"

- A38 Derby Junctions ExA's Recommendation Report[2]

- "RESP-8.121" : A38 Derby: 31st August 2021 "Applicant's Response to Secretary of State's Statement of Matters of 2 August 2021" [TR010022/APP/8.121]

[redacted]

1.3 Definitions

8 National Highways, as Applicants on other DCO schemes, has made submissions to the SoS on the A38 Derby Junctions and M25 junction 10/A3 Wisley interchange improvement ("the Wisley scheme"), as referred to in [REP4-051]. Interpretations have been made of these terms in response to each scheme in RESP-9.162 [Wisley], RESP-8.121 [Derby] and also for the A47BNB at REP4-051, Page 50-51/AWR column as follows:

- *Direct emissions - direct emissions to the atmosphere from relevant activities (e.g. tailpipe emissions from road users or construction vehicles).*

- *Indirect emissions - indirect emissions resulting from the purchase of electricity (e.g. for infrastructure operation) and/or any relevant downstream activities by third parties within the supply chain (e.g. embedded carbon from the manufacturing of construction products such as concrete).*

- *Cumulative effects of the Scheme - The consideration of the GHG emissions impact of the Scheme with other relevant committed developments included within the traffic model for the Scheme.*

- *Likely significant effect - An increase in carbon emissions resulting from a proposed scheme that are so significant that the Scheme would have a material impact on the ability of Government to meet its carbon reduction targets (as per paragraphs 5.17 and 5.18 of the NNNPS).*

9 CEPP have found other meanings, especially for "cumulative", indicating that that their use in the Environmental Statement and other submissions is inconsistent. We also have not been able to find these definitions in the Environmental Statement itself, so they appear to have been added later. The lack of a formal statement of meaning in the ES has no doubt contributed to the multiple and conflicting usage of "cumulative" which we expand on in a later section where we identify the different usages. Clarity on the meaning of "cumulative" is particular critical to the issues before the A47 ExA's collectively on Climate Change, and cumulative carbon assessment.

10 For scientific precision, CEPP uses the following additional terms, and our definitions are:

1. Absolute emissions – carbon emissions which are expresses in terms of **an absolute value** of emissions. The quantum of absolute emissions, as released into the atmosphere, represent a real measure of impact of greenhouse gases as an environmental factor.

2. Delta emissions, or differential emissions – carbon emissions, with an associated value which has been **derived by differentiation of absolute emissions**. The differentiation is usually performed by the difference between two traffic models, one with the scheme and one without. Delta values derived this way do not

quantify of the real impact of atmospheric greenhouse gases in the traffic model with the scheme.

1.4 Delta emissions

11 With respect to delta emissions, the applicant sometimes refers to these as "net" emissions. For example, Table 14-10 of the ES [APP-051] labels a column "*Net change in Carbon over 60-year appraisal period (tCO2e) (DS vs DM)*", other columns and the table similarly use "*net change*". "Net" is usually used to mean the remainder of emissions after some process.

The net-ness depends upon what object is being considered. If one is considering changes in carbon dioxide in the global atmosphere from a transport intervention, which is the most relevant object for considering the impacts of climate change, then the net change to the atmosphere is given by the absolute emissions given by the Do Something traffic modelling. The absolute changes of carbon dioxide in the atmosphere, output from the modelling, is the receptor of relevance in terms of EIA Regulations and assessment.

The usage of "net" by the Applicant in Table 14-10 and other places is misleading as it used to suggest that the quantum of delta emissions is all that is of concern for assessment. Delta is clearer word to use as it indicates that the figure is derived by a differentiation of two large absolute carbon emissions figures, and that the underlying absolute carbon emissions figures are actually the real measure of impact on the environmental receptor, and therefore the figures of primary concern.

1.5 Outline of document structure

12 Section 2 makes a request to the ExA for the A47BNB, A47NTE and A47THI to be considered together for cumulative carbon emissions. The Applicant is attempting to push these 3 very proximal schemes through the DCO process, as if they can be considered entirely separately (or 'solus') despite the fact that their construction and early operation carbon emissions, all fall in the same 4th carbon budget period, and the regulations and guidance requires this impact should be properly considered. CEPP are writing in parallel with this D5 submission to the ExA on each scheme to make this same request.

13 Section 3 provides an update of new information of relevance since the start of the Examination.

14 Section 4 provides a forensic analysis of the various, conflicting definitions associated with the word "cumulative" made by the Applicant.

15 Sections 5 to 13 response to each section of REP4-051.

2 REQUEST FOR THE EXAMINATIONS OF THE A47BNB, A47NTE AND A47THI TO BE CONSIDERED TOGETHER

16 This A47BNB examination is one of three which is running in parallel for three A47 schemes which are all contained within a 12 mile radius of the centre of Norwich. The Environmental Statement, and application, of each scheme is, by nature of the individual planning examinations, being considered for each scheme in isolation.

17 The issue of carbon emissions is an extremely serious one, and on this issue, it is clear that an EIA Regs compliant cumulative assessment is not being carried out in each of the A47 Environmental Statements. Much of what follows in this document discusses this further.

18 CEPP have made similar submissions, based on our same forensic examination of the Environmental Statements, and legal and policy frameworks, to each of the examinations. A consistent picture has emerged in which the Environmental Statements for each of these schemes is found not to demonstrate cumulative assessment of carbon emissions which is consistent with the EIA Regs and Design Manual for Roads and Bridges (DMRB) guidance.

19 This may be simply demonstrated by just one piece of data – the total of each scheme's construction emissions. This is one element of the overall carbon picture, which CEPP has presented in our Written Representation to each examination[3]. In Table 4 of CEPP's revised D4 WR [REP4-057] under "BBSNN[4] cumulative", we reproduce the Applicant's calculation of the construction emissions for each of the schemes as follows: A47BNB 25,765[5] tCO2e; A47NTE 87,727[6] tCO2e; and A47THI 25,946[7] tCO2e.

20 It is entirely rational and reasonable to conclude that the construction emissions for the three schemes considered in cumulation is the sum of these figures, ie 139,438 tCO2e, from the data published by the Applicant individually in each of the three Environmental Statements. A child would have no difficulty in understanding this example.

21 As the three schemes have approximately similar construction timelines and the same 2025 opening year, these cumulative emissions will all be generated **both** within the small 12 mile radius area (much smaller than any combined local authority areas), and within the first three years of the 4th carbon budget (2023-2027). There is both a spatial and temporal impact, related to carbon emissions, which requires sensitive assessment.

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[3] the data is presented in Table 4 of our WR to each examination, REP2-018 for A4BNB

[4] Broadland, Breckland, South Norfolk and Norwich

[5] Section 14.8.3, A47 BLOFIELD TO NORTH BURLINGHAM DUALLING, Environmental Statement Chapter 14 [TR010040/APP/6.1, REP2-002]

[6] Section 14.8.3, A47 NORTH TUDDENHAM TO EASTON DUALLING, Environmental Statement Chapter 14 Climate [TR010038/APP/6.1, APP-053]

[7] Section 14.8.3, A47/A11 THICKTHORN JUNCTION, Environmental Statement Chapter 14 Climate [TR010037/APP/6.1, APP-051]

22 None of the Environmental Statements perform even this simple calculation, nor assess the carbon impacts associated with it, despite these emissions arising proximally to each other, and from the same programmes of development to which they each belong. At the local and regional level, they each belong to a wider set of A47 schemes that have been lobbied and funded under the same umbrella, and the Applicant's webpage[8] for A47NTE lists A47BNB and A47THI amongst "Related Road schemes". At the national level, they are each part of the RIS2 programme. Non-compliance with the EIA Regs is demonstrated by the fact that the Applicant has not even calculated, nor given regard to, this cumulative figure for carbon appraisal.

23 With road-use operation emissions, making a similar calculation is harder as the calculation is a modelling output. The calculation would depend on having a clearly defined traffic model common to each scheme which uses the same assumptions, and ensures that journeys are not counted multiply (ie double counting), when the schemes are consider in cumulation. CEPP's WR and subsequent submissions have each explained carefully why cumulative road-use emissions may currently not be calculated due to there being no coherent approach to the modelling by the Applicant, within and between each scheme. As a former university-based researcher and scientific modeller, CEPP understand the architectural issues of computer modelling[9]. It is not beyond the wit of humankind to solve these issues – indeed, CEPP has identified many of the issues that need to be resolved at a model architecture level to enable carbon assessment which is EIA Reg and DMRB compliant. **The problem for the Applicant is that they have never gave regard to how to do cumulative carbon assessment at the outset on each of the three schemes. These issues should have been resolved at the EIA Scoping stage, but they were not.**

24 CEPP also note here that the simple example above does not include other programmed schemes such as the Norwich Western link and Long Stratton bypass, each with further significant construction emissions, as we have noted elsewhere, and also other A47 schemes for which funding is currently being lobbied for from central government in the autumn 2021 Comprehensive Spending Review if these go ahead later this decade.

25 The Applicant has gone to considerable effort to avoid having to acknowledge this simple example of cumulative construction emissions which is just the tip of the iceberg with the other schemes also in the pipeline, as above. To do so, they have employed multiple and

[redacted]

[9] As part of managing a high-performance parallel computing system at the University of East Anglia (UEA), I frequently gave consultancy to across the science faculties on computer modelling. This ranged from advising several generations of PhD and post-doctoral research students on modelling issues including detailed programming coding issues; advising professors and research leaders on system and architectural issues of modelling, and in many cases programming solutions for them; debugging extremely complex modelling systems for scientists who did not have the relevant IT skills in forensic fault finding; and running training courses of parallel computing and scientific computing languages across the campus.

My former manager, Dr Kevin Worvill who was at UEA for 35 years and Systems Manager across the whole campus, recently provided a brief statement which with his permission, I quote here:

> *"In the 1990s Dr Andrew Boswell joined the group to help set up the first parallel computing facility and take the lead in scientific computing support for the University. He has proven expertise in the analysis of complex scientific problems, particularly in the area of environmental and climate issues, and in implementing computer codes for their solution. Based on his track record I would trust his judgment on any related issues."*

contradictory definitions of "cumulative" and other terms which we unravel later in this document. The one definition which they apparently have never considered is the one that would relate to the example above.

26 We have previously respectfully requested that the A47BNB ExA (and subsequentially the ExA's for A47NTE and A47THI too) gives serious consideration to suspending the Examination under EIA Reg 20 so that the missing data and a large list of non-compliances may be resolved in the Environmental Statement. This request remains current.

27 CEPP now make the further request that the ExA's for each of three A47 schemes give consideration to resolving the issues that CEPP have raised consistently on each scheme by some joint process. The purpose for this request is that the issues on each scheme may be resolved by a unified approach across schemes which requires development by the Applicant of a coherent modelling architecture which enables each scheme to be assessed on the three-step modelling process which we have outlined in each WR:

> **Step ①** Define the baseline – the current status of the environmental factor – for the foundation of the assessment process (baseline).
>
> **Step ②** Determine the impact from the "construction and existence of the development" (solus).
>
> **Step ③** Determine the impact from "cumulation of effects with other existing and/or approved projects" (cumulative).

28 The example given above shows step ③ for construction emissions is just a simple addition. The point is that for road-use operation emissions, step ③ requires a coherent modelling architecture which the Applicant has not developed. Without getting into more complex arguments, as we do elsewhere, it is quite clear that the modelling architectures, on each scheme, are not consistent by just observing the Do Minimum absolute emissions for each scheme for the 5th carbon budget: A47BNB 5,182,172[10] tCO2e; A47NTE 4,673,125[11] tCO2e; and A47THI 4,640,659[12] tCO2e. If the three schemes were being modelled in a unified approach, then the baseline (ie **Step** ①) outputs would be the same.

29 Elsewhere CEPP have made more complex arguments about the choice of the model study area(s) and other factors. The simple point here is that the different study areas reflect in different DM model output emission figures, in other words different starting places in terms of what is in the model. This indicates that the applicant has never seriously considered how to model cumulative road-use emissions across the A47 schemes, because if they had, they would have chosen a common study area with a

[10] Table 14-9, A47 BLOFIELD TO NORTH BURLINGHAM DUALLING, Environmental Statement Chapter 14 [TR010040/APP/6.1, AS-004]

[11] Table 14-10, A47/A11 THICKTHORN JUNCTION, Environmental Statement Chapter 14 Climate [TR010037/APP/6.1, APP-051]

[12] Table 14-10, A47 NORTH TUDDENHAM TO EASTON DUALLING, Environmental Statement Chapter 14 [TR010038/APP/6.1, APP-053]

common starting place. Then steps ② and ③ can readily be made (and without the double counting issue that the Applicant themselves have raised at step ③).

30 The situation with the Examination process on each scheme is ridiculous. The Applicant is refusing to acknowledge that their Environmental Statement for each scheme does not comply with the EIA Regs and DMRB as CEPP has laid out. In the denial of the situation, the Applicant is repeating the same mantras, and arguments, over and over again. We respond to these in this document for the A47BNB.

31 As the problems are common to each scheme, as demonstrated by CEPP's submissions, a common approach to resolving the problems of all three schemes is sensible and rational. It could be best facilitated by the ExA's on each scheme considering the issues around cumulative carbon issues together, and then requiring a common approach to resolving the issues on each of the schemes. In practical terms, this would require suspension of each examination under EIA Regulation 20, and then requiring the necessary remodelling and changes to the Environmental Statements for each scheme from a common "written statement" under EIA Regulation 20 (1)(a), (b) and (c).

32 CEPP respectfully ask the A47BNB ExA to seriously consider this request. Although the A47NTE and A47THI examinations are at earlier stages, we will write to the ExA's for these in parallel with the same request.

3 NEW INFORMATION SINCE EXAMINATION OPENING

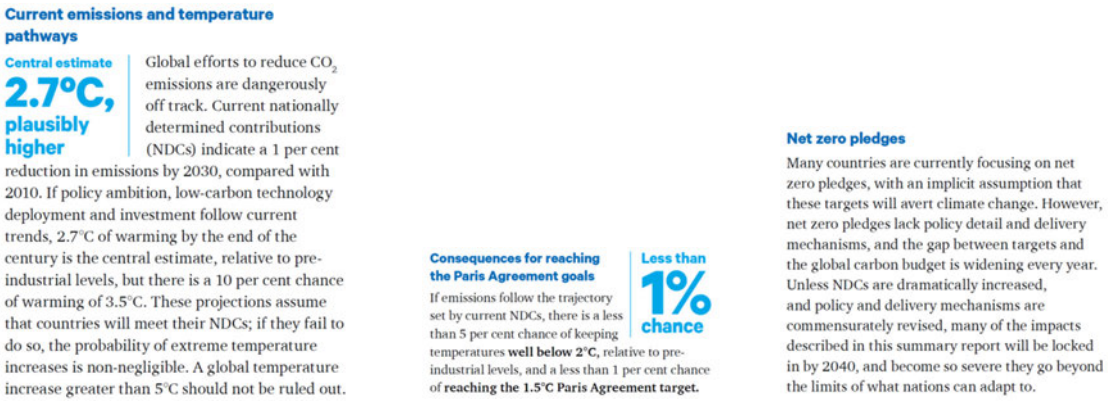
3.1 Chatham House Report

33 In September, Chatham House, The Royal Institute of International Affairs, [13] published its "Climate change risk assessment 2021" with the strapline "the risks are compounding, and without immediate action the impacts will be devastating. The summary report is attached at Appendix E, and the lead's author biography is in footnote[14]. The summary report intended for heads of government is based on research from Professor Nigel Arnell and team at the University of Reading.

[13] Chatham House is a world-leading policy institute with a mission to help governments and societies build a sustainably secure, prosperous and just world.

[14] Dr Daniel Quiggin is a senior research fellow with the Environment and Society Programme at Chatham House. He has expertise in the modelling, analysis and forecasting of national and global energy systems, having modelled various UK and global energy scenarios. As a senior policy adviser at the UK Department for Business, Energy & Industrial Strategy in 2018–20, Daniel led work on the post-Brexit policy implications for the energy sector's trade of goods and services, and helped shape effective strategies for the energy and climate package of the UK–EU FTA negotiations. He also previously worked as an analyst at Investec Asset Management within a commodities and resources investment team. Daniel holds master's degrees in particle physics and climate science, and a PhD in energy system modelling.

34 Some of the headline points of carbon emissions, carbon budgets and emissions reductions are reproduced below:



Current emissions and temperature pathways

Central estimate **2.7°C, plausibly higher**

Global efforts to reduce CO_2 emissions are dangerously off track. Current nationally determined contributions (NDCs) indicate a 1 per cent reduction in emissions by 2030, compared with 2010. If policy ambition, low-carbon technology deployment and investment follow current trends, 2.7°C of warming by the end of the century is the central estimate, relative to pre-industrial levels, but there is a 10 per cent chance of warming of 3.5°C. These projections assume that countries will meet their NDCs; if they fail to do so, the probability of extreme temperature increases is non-negligible. A global temperature increase greater than 5°C should not be ruled out.

Consequences for reaching the Paris Agreement goals

Less than **1% chance**

If emissions follow the trajectory set by current NDCs, there is a less than 5 per cent chance of keeping temperatures **well below 2°C**, relative to pre-industrial levels, and a less than 1 per cent chance of **reaching the 1.5°C Paris Agreement target.**

Net zero pledges

Many countries are currently focusing on net zero pledges, with an implicit assumption that these targets will avert climate change. However, net zero pledges lack policy detail and delivery mechanisms, and the gap between targets and the global carbon budget is widening every year. Unless NDCs are dramatically increased, and policy and delivery mechanisms are commensurately revised, many of the impacts described in this summary report will be locked in by 2040, and become so severe they go beyond the limits of what nations can adapt to.

35 The report covers much more on heat, productivity and health; food security; water security; flooding; and tipping points and cascading risks. Whilst all of these are of extreme important to the future of sustaining wellbeing of this planet, we do reproduce further clips on these topics, given the concerns here are about carbon emissions.

36 This report is noted by CEPP as it highlights that there is a huge gulf between extremely credible scientific assessments, such as the one providing the foundation of the Chatham House report, and the narrative from the Government and companies like National Highways. Much narrative has been presented by the Applicant in REP4-051on recent net-zero policies. These may exist on paper, but amount to no more that distant promises of good intent. They are currently unactioned and there is no guarantee that they will be delivered. Transition to net-zero requires a heavy investment, and no credible pathway to mobilising that level of investment has been demonstrated. In the UK, this is true of the soon to be released "Net Zero Strategy", and it is true of sector specific strategies like the Transport Decarbonisation Plan (TDP) and the Highways England "Net zero Highways Plan".

37 The history of climate change in the last 30 years is littered with promises which have been broken, or not delivered. The Chatham House report puts this into fine focus. In making planning decisions on carbon-intensive infrastructure, and the A47 schemes are carbon-intensive infrastructure, no reliance should be placed on unactioned paper plans. To do so would be unicorn thinking.

38 CEPP's advice is that the ExA and SoS, therefore, should take with a "pinch of salt" much of the rhetoric presented in the REP4-051 document, particularly the references to the Highways England "Net-zero Highways Plan". Reading this material, an uninformed reader might conclude that National Highways, as they are, have solved the Climate Emergency and already know how to deliver their part of the UK NDC, and in fact are well on the way to 100% delivery of their net-zero plan. Nothing could be further from the truth. The evidence from reports such as the Chatham House report should be a clear

warning bell to decision makers to only based assessments of science-based evidence which exists in the present.

39 **The findings within Chatham House report and other reports such as the IPCC 6th Assessment report[15] (Code Red), provide a clear context for decision making. Regard must be given of the full extent of the carbon impacts on any project. That can only be fulfilled, by a detailed, and scientifically congruent, consideration of the carbon impacts involved.** CEPP have made the case, on the basis of the NPS NN, the EIA Regs and guidance, and the DMRB, that this requires local, regional and national cumulative based assessment of the carbon emissions.

3.2 Transport Decarbonisation Plan

40 On the 14th July 2021, the Government released its Transport decarbonisation plan[16] (TDP).

41 The Rt Hon Grant Shapps MP, Secretary of State for Transport states in the foreword:

> "*But **we cannot, of course, simply rely on the electrification of road transport**, or believe that zero emission cars and lorries will solve all our problems, particularly for meeting our medium-term carbon reduction targets to 2035. Road traffic, even on pre-pandemic trends, was predicted to grow by 22 percent from 2015 to 2035 much of it in cities, where new roadbuilding is physically difficult and disadvantages communities. We cannot pile ever more cars, delivery vans and taxis on to the same congested urban roads. That would be difficult for the roads, let alone the planet, to tolerate. **As we build back better from the pandemic, it will be essential to avoid a car-led recovery.***"
>
> (our emphasis)

42 On local transport challenges, the TDP states:

> *"We will drive decarbonisation and transport improvements at a local level by making quantifiable carbon reductions a fundamental part of local transport planning and funding. Local Transport Plans (LTPs) are existing statutory requirements that set out holistic place-based strategies for improving transport networks, proposed projects for investment and, ultimately, lay out how key objectives will be achieved. **Going forward, LTPs will also need to set out how local areas will deliver ambitious quantifiable carbon reductions in transport, taking into account the differing transport requirements of different areas**. This will need to be in line with carbon budgets and net zero."*

[redacted]

43 This indicates that the Government consider it essential to avoid car-led delivery, and are aware that electrification of road transport is not sufficient to tackle road-use emissions. Yet, the Applicant bases much of their response in the REP4-051 document on electrification. As promoter of the three A47 schemes which will increase and induce further traffic increases, National Highways are promoting a car-led travel well into the future, at the expense of other transport solutions which would fit much better with the government's decarbonisation plans.

3.3 Net zero strategy

44 Published on the date of this submission, the Government's Net Zero Strategy backs this up with this statement:

> *"We are driving decarbonisation and transport improvements at a local level by making quantifiable carbon reductions a fundamental part of local transport planning and funding. Local Transport Plans (LTPs) – statutory requirements that set out holistic place-based strategies for improving transport networks and proposed projects for investment – will need to set out how local areas will deliver ambitious carbon reductions in line with carbon budgets and net zero."*

45 We are unable to make further comment on the NZS as of today.

3.4 Norfolk's Local Transport Plan 4

46 Norfolk Council took a draft Local Transport Plan 4 (LTP4) to their August Cabinet meeting and recommended, then, that the Norfolk County Council adopt the plan at its September Full Council meeting. In fact, the Cabinet were forced to pull the LTP4 from the Full Council and delay the LTP4's adoption on realising that the plan did not meet the requirements of the TDP (see press article in Appendix F).

47 In fact, there are other serious issues with the LTP4 which CEPP and others[17] had been warning NCC well before the TDP publication in an exchange of legal letters. The most pressing concerns are:

- the plan contained no transport decarbonisation targets, and means to monitor them;
- the plan failed to do a legitimate environmental assessment (Strategic Environmental Assessment) or consider alternatives, including scenarios that meet Norfolk's transport needs without further road building and increasing traffic;

[17] Norwich Green Party and Stop the Wensum link campaign

- the plan contained many roads schemes, including the 3 A47 schemes and the Norwich Western link, and further tranches of A47 dualling, now being lobbied for (see below) to also fall in the 4th and 5th carbon budget, but no cumulative assessment of the carbon impacts of all the schemes had been made over the course of the plan period to 2038;

- the council has overlooked carrying out a public consultation on biodiversity impacts and the Habitats Regulations impacts of the plan.

48 Campaigners, including CEPP, now await the next version of the plan to see if the necessary changes to make it legally compliant have been made.

3.5 Norfolk County Council's campaign for further A47 schemes

49 During October 2021, NCC have been promoting a lobbying exercise on behalf of the A47 Alliance for further A47 schemes to be included for funding at the 2021 Comprehensive Spending Review (CSR) to be announced on October 27th. There are two main asks of the campaign:

- The inclusion of three specific schemes - Acle Straight dualling (Norfolk), Tinley to East Winch dualling (Norfolk), and the Peterborough to Wisbech dualling – in the CSR for implementation this decade. It is not quite clear, as differing messages have been in the public domain, whether this is for the 2021 -2025 existing RIS2 period, or for the 2025 – 2030 period. In either period, if implemented, the proposed schemes will make additional impacts to both the 4th and 5th carbon budgets.

- to secure funding in the 2021 CSR for whole A47 dualling from Peterborough to Great Yarmouth.

50 The council programme for the lobby is provided in Appendix G.

51 CEPP have identified the lack of cumulative carbon assessment on the existing schemes in the area – the 3 A47 schemes currently at examination, the Norwich Western link, and the Long Stratton by-pass. If this lobby is successful, then further schemes will become programmed into the carbon budgets periods in the very near future. Regard needs to be given by the Applicant to the cumulative carbon assessment impacts of these schemes with the A47BNB before the close of the examination.

52 Already CEPP have demonstrated very considerable carbon impact, with just some data and a lot missing, on the existing schemes against local carbon budgets, see, for example, REP4-057, section 6.4 and Table 7 (part of our response to Hearings Action Points Action point ISH2/11). REP4-057, Table 7 shows the absolute carbon emissions associated with just the A47BNB in solus (ie no with cumulative assessment) to be around 50% of the available 4th carbon budget (apportioned from the 4th carbon budget on current transport sector usage in the BBSNN area).

53 Bringing further construction and operation carbon emissions in the 4th and 5th carbon budgets to the same area, which would be an outcome of a successful lobby, would generate further significant impacts. No figures relating to these impacts exist, and the Applicant has not taken regard of them in the Environmental statement. Although the lobby is a recent event, the longer-term aspirations behind the lobby exercise will be familiar with the Applicant so there is no reason for this omission.

54 It makes the call for a joined-up approach across the three existing A47 schemes on cumulative carbon emissions impacts even more pressing.

3.6 A47THI: Norfolk County Council advise using local transport data for carbon assessment

55 CEPP note that Norfolk County Council have submitted a Written Representation to the A47 - A11 Thickthorn Junction (A47THI) Examination which proposes that carbon emissions analysis on that scheme should be carried out at the county level, using county-based transport data[18]. This aligns with the EIA guidance advice for local assessment, which CEPP discuss later in this document, and partly aligns with CEPP's proposal for the A47BNB (and also the A47NTE and A47THI) to be assessed against the BBSNN[19] area. In suggesting that that carbon impacts are better not "*diluted*" into the overall UK economy, NCC are moving one step away from the "*losing the signal in the noise*" characteristic of the Environmental Statement which CEPP highlighted in REP4-057 as non-compliance N_C-16. (For clarity, CEPP do not agree with the first sentence that the ES, or EIA, aligns with the government policy, we have made the case elsewhere that NPS NN requires a full EIA assessment which includes cumulative and local carbon assessment). The relevant paragraph is:

> *"The Environmental Impact Assessment (EIA) aligns with government policy and relates all significant road network schemes to their 'material impact' on meeting national carbon budget targets. The county council would suggest using the context of transport in isolation* ***and provide analysis at a county level, using county-based transport data****; the impact would then not be diluted into the UK's overall impact. There is a need to demonstrate how each scheme will meet the path to net zero by 2050 on a scheme by scheme basis."*

56 The statement suggests that NCC consider that the Applicant must have regard to a local, transport sector carbon assessment in additional to solely considering national carbon budgets. NCC have identified this as missing on the A47THI scheme, and presumably would also apply the suggestion to each of the A47 schemes. An indicative local, transport sector carbon assessment has been made by CEPP in our WR.

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[18] Page 43, in NCC WR for A47THI (no library number yet), https://infrastructure planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010037/TR010037-000375-Norfolk%20County%20Council%20-%20Written%20Representation.pdf

[19] Broadland, Breckland, South Norfolk and Norwich, REP4-057, bullet 25

4 DEFINITIONS OF CUMULATIVE EMISSIONS

57 To assist the ExA and SoS, CEPP now unravel the multiple definitions of "cumulative" that have been used by the Applicant, and which have led to the one of the main areas of contention: whether the Applicant has assessed cumulative carbon emission impacts on the A47BNB, and whether it has complied with relevant legislation and guidance. To do this, CEPP identifies and makes a formal explanation (ie implied definition) of each usage (that we are aware of) of "cumulative" which the Applicant has made in the ES, and other submissions.

58 CEPP first review the DMRB requirements and definitions for cumulative assessment. We give each definition, or relevant clause, a code for easy reference in the sections below.

4.1 DMRB LA 103 definitions of cumulative effects

59 CEPP previously noted[20] that the DMRB "LA 103[21] Scoping projects for environmental assessment" defines "cumulative effects" [Page 6, PDF 7] as follows:

> "*Impacts that result from **incremental** changes caused by other past, present or reasonably foreseeable actions together with the project.*
>
> *NOTE: For the purposes of this document, a cumulative impact may arise as the result of:*
>
> *1) the combined impact of a number of different environmental factors* (**LA_103_1**)*;*
>
> *2) specific impacts from a single project on a single receptor/resource* (**LA_103_2**)*; and/or*
>
> *3) the combined impact of a number of different projects (in combination with the environmental impact assessment project) on a single receptor/resource.* (**LA_103_3**)*"*
>
> (our emphasis, and definition/reference codes added)

4.2 DMRB LA 104 requirements for "cumulative effects"

60 Section 3.19 requires that EIAs (ie the ES) effects "*must include cumulative effects in accordance with the requirements of the EIA Directive 2014/52/EU*" which now means the UK transposition of the EU Directive as the EIA Regs.

61 Section 3.21 states:

> "*Environmental assessments **shall** assess cumulative effects which include those from:*
>
> *1) a single project (e.g. numerous different effects impacting a single receptor)* (**LA_104_1**)*; and*

[20] [redacted]

2) different projects (together with the project being assessed) (**LA_104_2**)*."*
(our emphasis, and definition/reference codes added)

62 Section 3.21.2 states:

"The assessment of cumulative effects should report on:

1) roads projects which have been confirmed for delivery over a similar timeframe (**LA_104_3**)*;*

2) other development projects with valid planning permissions or consent orders, and for which EIA is a requirement (**LA_104_4**)*; and*

3) proposals in adopted development plans with a clear identified programme for delivery (**LA_104_5**).
(our emphasis, and definition/reference codes added)

63 Statement 3.22 states:

"The assessment of cumulative effects shall:

1) establish the zone of influence of the project together with other projects (**LA_104_6**)*;*

2) establish a list of projects which have the potential to result in cumulative impacts (**LA_104_7**)*; and*

3) obtain further information and detail on the list of identified projects to support further assessment (**LA_104_8**).

NOTE 1 *The assessment of cumulative impacts can be established through a desk study and mapping exercise, together with a review of planning/development applications and development plans.*

NOTE 2 *There are no defined limits or criteria for selecting the list of projects for cumulative assessment. Professional judgement using Annex III of the EIA Directive 2014/52/EU [Ref 1.N] can be applied and justification provided for developments selected (and excluded).*

NOTE 3 *The temporal and spatial scope, together with characteristics of the identified projects, are key considerations in identifying projects that require further assessment* (**LA_104_9**).

> ***NOTE 4*** *The Overseeing Organisation and/or authorities likely to be concerned by a project can provide relevant advice on the scope of the assessment of cumulative effects."*
>
> (our emphasis, and definition/reference codes added)

64 These DMRB definitions are generic, in that they apply to the entire range of environmental factors as defined by the EIA Regs.

4.3 DMRB LA 104 requirements for "study areas"

65 DMRB LA 104, states at 3.13:

> *"The study area for an assessment shall be clearly defined for each environmental factor at the earliest opportunity.* (**LA_104_10**)*"*

and at 3.13.1:

> *"The study area for an assessment should reflect the project and the surrounding environment over which effects are reasonably be thought to occur, taking into account cumulative effects.* (**LA_104_11**)*"*

66 The clear requirement of the DMRB is, therefore, that **intentional and specific regard** must be given to each environmental factor, and that it must take into account cumulative effects. As both the DMRB and the EIA Regs require project-based spatial scoping (LA_103_3, LA_104_2, LA_104_3, LA_104_4, LA_104_5, LA_104_9 above and EIA Regs, Schedule 4, Para 5 (e)), this means regard must be given to a project-based spatial scoping of cumulative effects.

67 To help with interpretation later, it is quite reasonable, and rational, for an environmental factor in the EIA Regs such as "climate" to be broken down into sub-types, each with their different study area, as long as this is clearly defined. The EIA Regs in any case breaks "climate" down to adaptation issues and "greenhouse gases". Greenhouse gases may be further broken to their own sub-types. CEPP has presented its own breakdown at Table 1 of our WR, REP4-057 into seven sub-types which map to the more complex PAS 2080:2016 sub-types. CEPP introduced the seven sub-types to provide a simplified model which correctly aligned to PAS 2080:2016, but allowed a more straightforward narrative for road transport projects. Each of these may have a different study area, but must be intentional and specifically defined. However, a problem arises, as it does in the Environmental Statement, when there are multiple study areas defined for any one distinct and well-defined sub-type.

68 The key problem for the Applicant with the Environmental Statement is that they have not given intentional and specific regard to defining study areas for carbon emissions, and sub-types of carbon emissions. In the case of road-user carbon emissions, the Applicant has simply appropriated the ill-fitting ARN study area for air pollutants, see our WR,

REP4-057, section 2.6. No regard was given to project-based spatial scoping of cumulative effects, and the ARN excludes schemes which should be included.

4.4 The Applicant's top-level (α) definition of "cumulative" for "greenhouse gas emissions"

69 CEPP now examine the definitions introduced by the Applicant with respect to "cumulative" and the environmental factor of "greenhouse gas emissions" (a sub-factor of "climate" in the EIA Regs).

70 At REP4-051, Page 50/AWR column, the Applicant defines 4 "Climate Change" terms. Over the page, the Applicant defines "cumulative" as follows

> *"Cumulative effects of the Scheme - The consideration of the GHG emissions impact of the Scheme with other relevant committed developments included* ***within the traffic model for the Scheme****."* (**APP_CUMU_DEF_α**)
> (our emphasis, and definition/reference codes added)

71 CEPP assume this is the Applicant's "alpha" definition. We note the same wording is given in the Applicant's A38 Derby Junctions response [ie RESP-8.121], and also for their Wisley response.

72 There is an immediate issue of applicability of this definition against both the DMRB guidance and the EIA Regs in that the spatial scope of this definition is based upon the arbitrary definition of the traffic model, and the traffic model study area. Whereas, **LA_103_3**, **LA_104_2**, **LA_104_3**, **LA_104_4**, **LA_104_5**, **LA_104_9** all require **an intentional projects based spatial scoping**. EIA Regs, Schedule 4, Para 5 (e) also requires a project-based scoping in stating "*the cumulation of effects with other existing and/or approved projects*". And DMRB LA 104 NOTE 3 (**LA_104_9** above) emphasises the temporal and spatial scope, together with characteristics of the identified projects, are key considerations in identifying projects that require further assessment.

73 **A key point here is that the DMRB and EIA Regs require a rational approach to be taken in choosing the study area (eg LA_104_11), whilst the Applicant's choice of traffic model study area is arbitrary, and therefore non-compliant, in relation to the requirements.** The Applicant's approach appears to have only been bottom-up in the sense that **the Applicant did not follow, nor pay due regard to, the DMRB and the EIA Regs.** If the Applicant had paid due regard to the DMRB and EIA Regs, then a different study area would have been chosen meeting both top-down (project-based scoping) and bottom-up (traffic model implementation) requirements. Given that there were other schemes in the area, each promoted by the Applicant themselves, the top-down (project-based scoping) was obvious, yet the study area(s) have not been chosen with regard to those schemes.

A simple explanation of the difficulty for the Applicant is that the DMRB and EIA Regs requires that an intentional choice of an appropriate study area is made first, with consideration of cumulative impacts. This has to be an input into the specification of the

transport model. The applicant has done the reverse. The applicant first chose the study area on other criteria, and they are now engaged in a futile attempt to retrofit it to the requirements of cumulative carbon assessment across relevant projects. The applicant is unable to do this because their arbitrary choice of study area precludes this.
The word cumulative is only used once in the Environmental Statement, Chapter 14 – the meaning is not related to cumulative assessment as we describe below (see **APP_CUMU_DEF_ζ**). Notions such as "inherently cumulative", not in the Environmental Statement, have been introduced to try to help with this doomed retrofitting process.

Cumulative assessment should be explicitly clear, and when executed intentionally does not need to rely on notions such as "inherently cumulative".

CEPP have maintained all along, that there are serious flaws in the Environmental Statement, in this regard, which is also why we gave considerable discussion as to the issue of choice of study area in our WR, REP4-057.

4.5 Definition of "cumulative" for climate change vulnerability by the Applicant

74 At REP2-002, 14.6.4 the applicant defines the study area for climate change vulnerability as the physical infrastructure assets associated with the Proposed Scheme. By definition, this can only ever be the scheme in isolation (ie solus). We refer to the Applicant's implied definition for cumulative impacts for climate vulnerability as APP_CUMU_DEF_Ω. **Despite, the DMRB and the EIA Regs, as above, the Applicant has given no regard to intentionally defining a study area for cumulative assessment of climate change vulnerability.**

75 We, further note, that in Part 2 of the RESP-8.121 on the A38 Derby Junctions schemes, National Highways have considered cumulative climate vulnerability effects at both local and regional scales (RESP-8.121, section 3.2.14). Figures in Appendices of RESP-8.121 give maps relating to the study areas of local and regional cumulative assessment, although the boundary of the regional assessment is not clear.

76 Whilst the climate vulnerability assessments in RESP-8.121 are superficial and unreliable, RESP-8.121 indicates that National Highways have now presented local and regional cumulative assessments for climate vulnerability. **As well as not giving regard to cumulative assessment of climate change vulnerability, and designing it out choice of study area, the applicant has not given regard to local and regional cumulative assessment on the A47BNB.**

4.6 Definition of "cumulative" for construction "greenhouse gas emissions" by the Applicant

77 At REP2-002, 14.6.2 the applicant defines the study area "*considered for the **construction** phase*" as "*the physical infrastructure assets associated with Proposed Scheme*". By definition, this can only ever be the scheme in isolation (ie solus). This appears to correspond broadly with the APP-052 (TR010022 Library), Environmental Statement

chapter 14, for the A38 Derby junctions which defines the study area for construction carbon emissions to be "*the area of construction works falling within the Scheme boundary*".

78 Construction emissions here can be considered as a sub-type of "environmental factor" under the EIA Regs. CEPP have defined engineering construction emissions as **<*CONST*>** in Table 1 of our revised WR [REP4-057], noting that this definition aligns to a set of sub-modules within PAS-2080 module A. We refer to the Applicant's implied definition for cumulative emissions as APP_CUMU_DEF_β_**<*CONST*>**.

The corresponding area appears to be chosen as a pragmatic, engineering area for calculating the construction emissions on the A47BNB **in solus**. The problem arises that the Applicant has not given regard to how to assess construction emissions across the projects implied by the project-based requirements for cumulative assessment under the DMRB and EIA Regs as above. As CEPP have said elsewhere, a child would have no difficulty in realising that the sum of such solus calculations across the relevant projects provides the cumulative engineering construction emissions. **Despite the DMRB and the EIA Regs, as above, the Applicant has given no regard as to doing this.**

79 Further, the applicant has not addressed the emission types which CEPP have defined as <CONST-LUC> and <CONST-SEQ> which are respectively "Carbon released in land-clearance (eg: for carbon rich soils or woodland destroyed)" and "Future loss of ability to sequester carbon from habitats lost during construction". These correspond to sub-sets of PAS-2080 module A-5, and PAS-2080 module D, respectively as explained in the text under Table 1 in REP4-057. These ecologically based carbon emissions are not necessarily restricted to engineering boundaries of the scheme, and therefore require their own sub-types of study area definitions. CEPP note that the Applicant has applied the "not significant" mantra to these ecological emission sub-types without any justification. We also have emphasised that when regard is given cumulative construction emissions of these ecological emission sub-types on a projects-based approach (as per DMRB and EIA Regs), that the Norwich Western Link ecological emissions will be high (eg: REP4-057, bullet 72), and therefore they should be included as part of the cumulative emissions assessment, and therefore they also need to be considered in solus for the A47BNB.

4.7 Definition of "cumulative" for PAS 2080:2016 (B6) "greenhouse gas emissions" by the Applicant

80 REP2-002, 14.6.3 is confusing. The applicant refers to the "study area" (singular) for the operational phase, but then goes on to define two distinct study areas (plural): we consider the first for B6 emissions in this section, and the second for B9 emissions in the next section.

81 The study area for PAS 2080:2016 (B6), "Operational energy use (B6) - operational lighting emissions" is implied by the "*operational energy requirements of the Proposed Scheme*". CEPP refer to the Applicant's implied definition for these cumulative emissions as **APP_CUMU_DEF_γ_<OP>** (as opposed to <OP-USE> in CEPP's categories of

emissions types) although we also note that these appear to be a sub-set of ***<OP>*** and do not include maintenance and refurbishment, being just B6.

Once again, this is a scheme-in-solus definition, which may be well be administratively pragmatic. The problem arises for the Applicant that they have not given regard to how to assess this sub-type of operations emissions across the projects implied by the project-based requirements for cumulative assessment under the DMRB and EIA Regs as above.

4.8 Definition of "cumulative" for PAS 2080:2016(B9) "greenhouse gas emissions" by the Applicant

82 REP2-002, 14.6.3, specifies the study area for PAS 2080:2016 (B6), "User utilisation of infrastructure (B9) – end user traffic emissions" as the Affected Road Network (ARN). CEPP refer to the Applicant's implied definition for these cumulative emissions as **APP_CUMU_DEF_δ_<OP-USE>**.

83 CEPP have already described how the use of the ARN for carbon emissions is irrational [REP4-057, section 2.6] as an area that was criteria selected for air quality emissions has been appropriated for carbon emissions. This appropriation of a study area for another environmental factor indicates that the Applicant has not given the regard making an intentional and specific choice of study area for PAS 2080:2016(B9) emissions, as required by DMRB 104 3.13 and 3.13.1 (ie LA_104_10 and LA_104_11).

84 CEPP further note, that APP_CUMU_DEF_δ_<OP-USE>, based on the ARN, appears to be a different definition of study area than APP_CUMU_DEF_α which is "within the traffic model for the Scheme".

4.9 A further definition of "cumulative" operation "greenhouse gas emissions" at REP4-051, 4.3

85 At REP4-051, 4.3/SAR-ISH2 column, the Applicant writes:

> *"The cumulative effects of the Scheme with other existing and/or approved projects is inherent within the methodology followed in the Environmental Statement through the inclusion of the Scheme and other locally committed developments* ***within the traffic model*** *(see ES Chapter 15 Cumulative Effects (**APP-053**), and the Transport Assessment (**REP1-044**)."*

86 This introduces another definition which we refer to as **APP_CUMU_DEF_ε.** REP1-044, Figure 6.1 gives a map of the "Extent of the 2015 NATS model" and the location of the A47BNB within it. Whilst REP1-044, Figure 6.7 shows the "NATS Do-Minimum network alterations (wider area)".

87 CEPP have now identified three different definitions of the study area for road-user carbon emissions, and cumulative assessment:

APP_CUMU_DEF_α : "within the traffic model for the Scheme" (not further qualified)

APP_CUMU_DEF_δ_<OP-USE>: "Affected Road Network (ARN)"

APP_CUMU_DEF_ε_<OP-USE>: "within the traffic model" (qualified by REP1-044)

88 It is not clear if APP_CUMU_DEF_α and APP_CUMU_DEF_ε_<OP-USE> are the same, or not. Whilst neither appear to be the same as APP_CUMU_DEF_δ_<OP-USE>, the definition in Chapter 14 of the Environmental Statement.

4.10 A further definition of "cumulative as table label at REP2-002, Table 14-5

89 Table 14-5 contains the label "Whole Appraisal Period (60 years - cumulative)". The meaning here is actually just "counting up" in this case of the Do Minimum absolute emissions over each year in the 60-year Appraisal period. This is the only use of the word "cumulative" in REP2-002, and we refer to it as **APP_CUMU_DEF_ζ.**

4.11 Designing out of cumulative assessment of road use carbon emissions in the Transport Assessment (REP1-044)

90 REP1-044, sections 6.3.16 - 6.3.18 describes which highway schemes have been included in the transport assessment, and gives the map at Figure 6.7. Table 6-2 summarises the assumptions adopted in the Do-Minimum and Do-Something scenarios, and is reproduced below.

Table 6-2: DM/DS network assumptions

Scenario	Appraisal	Schemes Included			
		Thickthorn	Blofield	North Tuddenham	Other DM Schemes including NWL
DM	Blofield	Y	N	Y	Y
DS	All	Y	Y	Y	Y

91 The DM scenario models a network in which the A47THI, A47NTE and NWL schemes are already in operation and part of the network whilst the A47BNB has not been built. There are two problems with these network assumptions for carbon assessment:

A. The DM baseline network already includes the A47THI, A47NTE and NWL schemes as operational, therefore the cumulative road use emissions from the operation of these schemes is designed out of the modelling. Further it does not reflect the real-world situation, as of today in 2021, on the ground.

B. The DS step adds in the A47BNB in solus. Therefore solus, and **not cumulative**, carbon assessment has been performed.

92 EIA Regs, Schedule 4, Para 5 (e) requires the "*the cumulation of effects with other existing and/or approved projects …"* to be assessment. The modelling network assumptions which provide for cumulative assessment of road-user carbon emissions as the environmental factor, in compliance with this regulation, are as follows:

	Scheme being appraised	A47THI	A47BNB	A47NTE	Other schemes including NWL
DM	A47BNB	N	N	N	N
DS (Solus)	A47BNB	N	Y	N	N
DS (Cumulative)	A47BNB	Y	Y	Y	Y

Table 1

- DM in Table 1 complies with the guidance[22] on the preparation of the Environmental Impact Assessment reports which defines "Baseline Scenario" as "*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.*"

- DS (Solus) is the *incremental* change from the specific impact from a single project (ie the A47BNB) on a single receptor/resource (ie greenhouse gas emissions). This corresponds to LA_103_2 from DRMB LA 103 as labelled above.

- DS (Cumulative) is the *incremental* change from the combined impact of a number of different projects (ie all the projects known in the study area) in combination with the environmental impact assessment project (ie the A47BNB) on a single receptor/resource (ie greenhouse gas emissions). This corresponds to LA_103_3 from DRMB LA 103 as labelled above.

93 In section 2 above, CEPP have described the simple three steps which are required Step ① (baseline)**,** Step ② (solus) and Step ③ (cumulative). Table 1 illustrates these three steps. CEPP has been consistent in following the requirements of the regulations and guidance. Our WR, REP4-057, Table 2 laid out the data in detail by type and carbon budget required to do such an assessment (at both the local and national level), whilst REP4-057, Table 4 laid out the available data for an indicative local cumulative assessment. In REP4-057, Table 4 under **DS^{ACCU}**, (which corresponds to DS (Cumulative) above) CEPP indicates that absolute road-use (<OP-USE>) emissions for various carbon budget periods "require[s] modelling". This equates to the modelling required as shown by the DS (Cumulative) network specification in Table 1 above. The delta road-use (<OP-USE>)

[22] [redacted]

emissions are then generated by the usual differentiation (eg "Derivable H5-H3" etc in ISH2-057, Table 4). CEPP have also been entirely consistent with the EIA Regs and DMRB guidance, as laid above.

94 The statement at REP4-051, 4.3/SAR-ISH2 column that cumulative effects of road user carbon emissions is "… *inherent within the methodology … within the traffic model … see … Transport Assessment (REP1-044)"* **is false** whilst the DM/DS network assumptions are as specified in REP1-044, Table 6-2.

95 When the DM/DS network assumptions are changed to those in Table 1 above, then the potential for a methodology in which the cumulative effects are clearly designed into the assessment becomes possible. The equates also to the Step ① (baseline)**,** Step ② (solus) and Step ③ (cumulative) approach. CEPP use the word "potential" because whilst moving from the specification in REP1-044, Table 6-2 to Table 1 removes a fundamental barrier to cumulative assessment in the Applicant's methodology, it doesn't remove all the other issues which we have highlighted in our submissions.

4.12 Spurious definition of "cumulative" as applied to UK carbon budgets by the Applicant

96 This statement, and similar ones with the same lack of substantive meaning, appear repeatedly in the Applicant's narrative:

> *"UK Carbon Budgets, used to put emissions from the Scheme into context, are inherently cumulative as they consider emissions across all sectors of the economy."*

97 CEEP refer to this as **APP_CUMU_DEF_Σ.** The segment "*UK Carbon Budgets are inherently cumulative as they consider emissions across all sectors of the economy*" is a spurious truism, but only in part. It is a "**part"** truism because the carbon budgets don't contain all emissions anyway: notably aviation, shipping and consumptions emissions are not accounted for in the UK 4th and 5th carbon budgets. It is **spurious**, because it states the obvious and beyond that has no relevance to the assessment of cumulative impacts of carbon emissions, and making relevant definitions of "cumulative" compliant with the regulations and guidance. It is obvious that the sum of all possible emissions (notwithstanding the ones omitted as just noted) is cumulative, but it tells us no more than the fact that counting (or summing) the apples in one's shopping basket is inherently cumulative.

98 The segment "*used to put emissions from the Scheme into context*" describes the comparison that the Applicant makes, but it does not attach validity to the Applicant's approach, nor to the context or comparison involved. We have previously pointed out that this absurd comparison is antithetical to good science, and a deliberate tactic to "loose the

signal in the noise"[23]. It is not consistent with the EIA Guidance[24] (which we describe later in more detail) which for example states:

> *"Judging an impact's magnitude and significance must be context-specific. For an individual project — e.g. a road project* ***— the contribution to GHGs may be insignificant on the global scale, but may well be significant on the local/regional scale, in terms of its contribution to set GHG-reduction targets.****" (our emphasis)*

99 The next sections responds to each section of REP4-051.

5 REP4-051/4.1/CUMULATIVE EFFECTS MATTERS

100 Despite being labelled "Cumulative effects matters", REP4-051/4.1 actually covers many other issues which we address in turn. Apart from defining "cumulative" (APP_CUMU_DEF_α meaning), the response on cumulative effects appears not to be at REP4-051/4.1 but spread around the document.

5.1 REP4-051/4.1/AWR

101 Much of the section is describing policies which may, or may not, make significant carbon reductions. Later at REP4-051/4.4/Applicants ISH2 Response, we describe the problems with this approach of relying on policy documents which are largely unactioned to date. The problem for the Applicant is that they cannot demonstrate that policies will deliver, and that local carbon assessment shows very significant impacts against carbon budgets. With policies that may not deliver, the notion that other areas of the economy, either locally or nationally, will compensate for these significant is flawed.

6 REP4-051/4.2

102 CEPP's position on carbon assessment is that significance needs to be assessed in via a number of criteria, and we explain this later in more detail. The NPS NN invokes the EIA Regs, and therefore requires further comparisons beyond the National Highway comparison against the entire UK carbon budget (eg: local and regional) At REP4-057, Table 7 we show a variety of comparisons (indicative) which massively improves the sensitivity of the assessment.

[23] eg: REP4-057, bullet 132,

[24] [redacted].

7 REP4-051/4.3/CUMULATIVE CLIMATE CHANGE EFFECTS

103The ExA's question is clearly stated at REP4-051, Page 55/QIR-ISH2:

> *"The ExA asked how cumulative climate change effects have been assessed and why the cumulative effects assessment has not included other A47 road projects or other projects in RIS2?"*

7.1 REP4-051/4.3/Applicants ISH2 Response

> *"The cumulative effects of the Scheme with other existing and/or approved projects* ***is inherent within the methodology*** *followed in the Environmental Statement through the inclusion of the Scheme and other locally committed developments within the traffic model (see ES Chapter 15 Cumulative Effects (**APP-053**), and the Transport Assessment (**REP1-044**)."*

104As CEPP have noted, the Applicant made no mention of cumulative carbon assessment in the Environmental Statement, Chapter 14. Now, they are saying that it is inherent in the methodology as above. This is a change of position, because if they knew it was inherent in the modelling, and having regards to the EIA Regs and DMRB, why did they not say this in Chapter 14? Given this, CEPP can only conclude that the "inherently cumulative" contrivance is being used to retrofit the Application.

> *"No other A47 schemes or RIS2 projects lie within the study area for the transport model, which followed the methodology set out in DMRB LA 114".*

105This statement is extremely confusing, and the "study area" being used is very relevant. If the application is referring to **APP_CUMU_DEF_δ_<OP-USE>** which corresponds to the "Affected Road Network (ARN)", then this does not include any other road schemes.

However, REP1-044, Figure 6.1 gives a map of the "Extent of the 2015 NATS model" and the location of the A47BNB within it. Whilst REP1-044, Figure 6.7 shows the "NATS Do-Minimum network alterations (wider area). An apparent different meaning: **APP_CUMU_DEF_ε_<OP-USE>.** REP1-044, sections 6.3.16 - 6.3.18 describes which highway schemes have been included in the transport assessment, and these include the 3 A47 schemes and the Norwich Western link.

CEPP have already described how the DM/DS network assumptions at REP1-044, Table 6-2 design-out the potential for cumulative assessment. The assessment which is specified in Table 6-2 is "inherently solus" (not "inherently cumulative"), as the incremental change made between the DM and DS cases is the sole increment of the A47BNB scheme. CEPP have shown the specification at Table 1 which is required to achieve an accumulative carbon emissions assessment across this study area.

> *"Consideration of UK Carbon Budgets, used to put emissions from the Scheme into context, are inherently cumulative as they consider emissions across all sectors of the economy."*

106The above (**APP_CUMU_DEF_Σ**) is a spurious truism.

> *"In accordance with paragraphs 5.17 and 5.18 of the NNNPS, an increase in carbon emissions resulting from the Scheme would have ~~that are~~ [to be] so significant that the Scheme would have a material impact on the ability of Government to meet its carbon reduction targets (as per paragraphs 5.17 and 5.18 of the NNNPS)."*
>
> (typo corrected)

107CEPP provide arguments against the de minimus claim later at section 12 on the RIS2 judgement.

7.2 REP4-051/4.3/Applicants Written Response

> *"As explained at the Examination, cumulative emissions are taken into consideration both during the calculation of construction emissions and through the traffic model used as the basis for calculating road user emissions."*

108CEPP have examined the study area used for construction emissions (APP_CUMU_DEF_β_**<*CONST*>**) at section 4.6 above. It is inherently solus, as it designs out considering cumulative effects from other schemes.

109In the previous section, we have shown that REP1-044, Table 6-2 defines an inherently solus modelling methodology, even though all three A47 schemes and the NWL are included in this traffic model definition.

> *"Accordingly, Highways England do not consider that GHG emissions on account of this scheme alone, including on a cumulative basis, are likely to have any significant effect on climate or the UK's ability to comply with its carbon budgets".*

110Cumulative carbon emissions have not been assessed for construction or road-use so the statement above is irrelevant.

> *"As a result, the increase in GHG emissions associated with the Scheme is not a reason to refuse development consent."*

111Ditto

> *"The increase would have no material impact on the ability of Government to meet its carbon reduction targets and so the proposed development does not give rise to any conflict with paragraph 5.18 of the NNNPS."*

112Ditto

8 REP4-051/4.4

8.1 REP4-051/4.4/ Issues Raised at ISH2

113CEPP have already pointed out that the Applicant's paraphrasing of what we said at the ISH2 is unreliable. With respect to the middle section of REP4-051/Page 57/QIR-ISH2 column starting where the "ExA asked Dr Boswell …":

- CEPP have performed the calculations under discussion at REP4-057/Table 7, and we have noted that at REP4-057/bullet 144 that the Applicants' statement in response to ExQ1.4.1 contains two errors.

- However, in principle we do not dispute the calculation method when performed and reported accurately. It is merely calculating a percentage and we repeat it at REP4-057/Table 7. What is at issue is what the divisor in the percentage calculation.

- CEPP did not say that we "disagreed with the numbers fed into the calculation". What we did say was that we had no means to verify that these figures were correct because very scant (and, as this submission shows, confusing and conflicting) information is available to the public about the traffic modelling from where the data input into the calculation against carbon budget is derived. CEPP have made it clear in REP4-057, **N C-10** that the lack of transparent information and data about the traffic models on which operational carbon emissions are based does not allow any independent review and scrutiny of the high-level figures published in the Environmental Statement. The applicant is in contravention of the terms of the Aarhus Convention in this respect.

- The comparison of a carbon emissions figure with the entire UK economy is just one calculation which can be made, and CEPP's position is that NPS NN requires more than this because of its invocations of the EIA Regs, and the guidance for local and regional assessment to be also made. REP4-057, Table 7 makes a number of such calculations including the calculation of delta road-use carbon emissions against the entire UK economy.

- REP4-057, Table 7 also performs the calculation for:

    - Absolute road-use emissions as from the Applicant's data

    - And for the 4CB, the transport sector in the BBSNN area, as proportioned by current transport sector proportion and share of UK population, which is a reasonable indicative calculation for local assessment.

- We note under REP4-057, Table 7 that there is a triple-whammy in suppressing the carbon signal when the comparison is with the whole UK economy. These

are: 1) delta v absolute carbon; 2) national v local area 3) whole economy v road transport sector.

- It is rational in any scientific endeavour to optimise the sensitivity of any parameter under consideration. Optimising sensitivity applies to greenhouse gas emissions as an environmental factor under the EIA Regs, and REP4-057, Table 7 provides an indication of the range of sensitivities possible. Local assessment as well as national assessment is required by the invocation of the EIA regs in the NPS NN.

114With reference to the suppression of the carbon signal in the Applicant's assessment methodology, the Applicant appears to also hold the view that a single-criteria assessment is satisfactory. However, the usual approach of scientists is to find as a variety of criteria as possible to confirm an assessment. The EIA Guidance[25] advocates using more than a singular criterion for significance determination:

> *"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:"*
> (our emphasis)

3.4The Applicant has not given regard to considering using multi-criteria appraisal which increases the sensitivity of assessment. Despite the clear triple whammy of their chosen criterion in suppressing the carbon signal.

8.2 REP4-051/4.4/ Applicants ISH2 Response

> *"The Applicant noted that all the emission through different phases have been accounted for as well as emissions from different schemes."*

115This is clearly false as the emissions from other schemes have not been cumulatively assessed, either for construction emissions and road-use, as above.

> *"The Applicant added that the suggestion that it should carry out a carbon emissions assessment based on the other A47 schemes is not appropriate and is not in line with the approach to cumulative assessment that is set out in the NNNPS."*

116CEPP have laid out the requirements of the EIA Regs and the DMRB for cumulative assessment. The EIA Regs is invoked by the NPS NN. A truer assessment of the situation is "*that the suggestion that the Applicant should carry out a carbon emissions*

[25] Paragraph 1.4.2, page 49, [redacted] 017 – European Union

assessment based on the other A47 schemes presents a problem to the Applicant, because it is not possible because of the inherently solus methodology and study area choice(s) for both construction and road-use carbon emissions in the Environmental Statement".

"The objective of the carbon budgets is to … there will be increases in carbon emissions from some areas and the budgets enable UK governments to accommodate these by reducing emissions in other areas so as to achieve the 2050 net zero target"

117 The quote above does not fully make sense due to typographical errors, but its intended meaning is National Highway's mantra that carbon emission increases in one part of the UK economy (ie road transport) with be compensated by greater than proportionate carbon emissions reductions in another part of the economy. CEPP have presented the recent Chatham House report above as just one piece of evidence that such an approach has failed on a massive scale over the last 30 years, and globally we are now faced with not even a serious chance (5%) of meeting the highest end 2°C target in the Paris agreement. We have also referenced Professor Sir David King (REP4-057, bullet 108) and the Climate Crisis Advisory Group (CCAG) that there is no remaining carbon budget (for 1.5°C).

118 The DfT's Transport Decarbonisation Plan (TDP) acknowledges both the uncertainty and difficulty in meeting net zero by 2050, in particular as its core and high bound projections for land transport (let alone aviation or shipping) are too high for this target:

> "In our decarbonising transport projections, lower bound emissions for land transport reach zero by 2050. This could be driven by a natural decline in petrol and diesel vehicle use as those markets, and associated infrastructure provision, decline over time. *However, reaching the point of actual zero emissions may require additional measures beyond those identified here to support the final transition to fully zero emission surface transport.*" (p44)

119 Further, the DfT's Transport Decarbonisation Plan might be ambitious but it is far from actually enabling the change it talks about, notwithstanding there are questions as to whether it goes far enough, quickly enough. As Lord Deben, chair of the Climate Change Committee has said in the same speech that he also challenged the spending on RIS2[26]:

> *"the Government must be congratulated on its targets and attacked on the basis it has not delivered on the mechanisms for delivering those targets."*

120 National Highways may wish to gamble our children's future away on the make-belief that they can keep increasing road transport emissions, and somehow these will be compensated for elsewhere. In doing so, they ignore the scientific experts, and even the

[26] [redacted]

most senior advisor to the Government on Climate Change, Lord Deben. The implication of this generation failing to meet our climate obligations and targets introduces a very significant inter-generational human rights issue. CEPP is not prepared to see fundamental rights[27] such as the right to life, the right to property, the right to a private and family life compromised for future people by such make-belief notions, and we seek to prevent others from doing so.

8.3 REP4-051/4.4/ Applicants Written Response

121 CEPP notes the Applicant agrees that the EIA Regs are the relevant legal framework, ant that EIA Regs, Schedule 4, Paragraph 5(e) requires the assessment of cumulative effects with other existing and/or approved projects.

122The Applicant then selectively quotes the policy framework, and PINS Advice Note 17.

123The Applicant says that the EIA Regs do not provide a stand-alone regime (page 58). CEPP have said all along that EIA Regs are invoked by the NPS NN, and that other guidance such as the DMRB should be applied too. CEPP maintain that the Applicant has not followed the EIA Regs, nor its guidance, and other advice in the DMRB as explained in the rest of this document, and other submissions. Then from REP4-051/4.4/AWR, top of page 59, twelve number point are made.

1. The EIA Regs guidance strongly advocates local and regional greenhouse gas assessment. The problem for the Applicant is that they have given no regard to the EU EIA Guidance, nor any other EIA Guidance.

2. The RIS2 judgement does not say how the EIA Regs should be applied at the project level. The RIS2 judgement at 123 supports CEPP that the EIA Regs do apply at the project level.

3. It is revealing that the word "attempts" is used in the context of decarbonisation transport. This does not suggest that the Applicant is firmly committed to decarbonisation transport, and expects that current policy and documents such as the National Highways "Net-zero Highways Plan" may not completely succeed.

   CEPP have previously said that make-belief notions are not appropriate responses to the risks that we are currently face as assessed by scientists, including in the Chatham House report.

   CEPP's position is not an "opinion". We have reviewed the Applicant's Environmental Statement, from a detailed knowledge of the science. We conclude that there is no clear evidence that the scheme will not undermine national climate targets. Quite the reverse, our indicative, local assessment indicates very severe

[27] Under the Human Rights Act 1998 and the rights under the European Convention on Human Rights incorporated by that instrument: in particular, Article 2, Article 8 and Article 1 of Protocol 1

impacts to local carbon budgets just when the Net Zero Strategy (NZS), published beforee the UN Climate conference in Glasgow, requires "*quantifiable carbon reductions a fundamental part of local transport planning and funding*" to achieve national climate objectives. The Environmental Statement, and CEPP's analysis of it shows **significant quantifiable carbon increases in transport** in the BBSNN area over the 4th, 5th and 6th carbon budgets associated with the A47BNB

4. CEPP have indicated the data that is missing in Tables in our WR, REP4-057.

5. CEPP note the applicant has updated the Environmental Statement, Chapter 14 follow the 6th carbon budget, but only in the context of their methodology which as we have explained is extremely flawed.

6. The EIA Regs guidance strongly advocates local and regional greenhouse gas assessment. The problem for the Applicant is that they have given no regard to the EU EIA Guidance, nor any other EIA Guidance.

7. The Applicant has not made any indicative calculation of land-use emissions available in the Environmental Statement. They use the word "predicted", but do not provide the prediction which they claim to have made.

   CEPP have provided information during the Examination on the cumulative assessment of carbon emissions, and that it should include the 3 A47 schemes and the Norwich Western link (NWL). This is supported by these schemes be included in the transport assessment at REP1-044. We have pointed out several times that the NWL can be expected to have high construction phase emissions, both from the engineering construction of the road itself and a 700m viaduct, and from land-use emissions from a high-carbon landscape (eg REP4-057, bullet 72). As the NWL is required for the cumulative carbon assessment, including on its high construction and land-use emissions, then land-use emissions should be calculated on all the schemes. This is a consistent and comprehensive approach and allows the <CONST>^{4CB}, < CONST-LUC>^{4CB} and <CONST-SEQ>^{4CB} missing data in REP4-057/Table 2, and as defined there, to be filled in (so the BBSNN area cumulative assessment can be made).

8. This is the "inherently cumulative" argument. CEPP have shown the Applicant's methodology to be "inherently solus", see the above arguments.

9. The Applicant hasn't made it clear to what they are referring

10. The Applicant has many confusing and conflicting definitions of what cumulative assessment means. The Applicant made no reference to cumulative assessment of carbon emissions in the Environmental Statement, chapter 14. Analysis above shows the Applicants methodology to be "inherently solus". The Applicant is misguided in now trying to retrofit an "inherently solus" methodology as being cumulative.

11. CEPP have already replied to Action point ISH2/13 [Hearings Action Points] in REP4-057. The High Court clearly stated that it is not in a position to resolve differences of opinions between experts. We comment further on the RIS2 case under REP4-051/Annex B/1.4,

12. CEPP is aware of the ministerial statement of 21st July 2021.

124 The remaining blurb is this section repeats points already made by the Applicant and CEPP has dismissed elsewhere.

9 REP4-051/ANNEX B/1.1 Introduction

125 CEPP note the Applicant's possible updating of Chapter 14 of the ES. CEPP has written to the ExA to inform him that Dr Andrew Boswell won't be available to read this until after Monday December 6th, and would plan to comment on this and any other Climate Change related matters by Deadline D9 on Wednesday 15th December, and subsequent deadlines before the close of the Examination.

10 REP4-051/ANNEX B/1.2 DERBY JUNCTIONS AND WISLEY DCO APPLICATION

126 This section appears to just record recent procedural events on this matter. Section 1.2.1 refers to RESP-8.121 on the A38 Derby Junctions - "Applicant's Response to Secretary of State's Statement of Matters of 2 August 2021" [TR010022/APP/8.121].

127 Section 1.2.2 outlines that the Applicant has been asked to provide more information by the SoS on the A38 Derby and Wisley schemes with respect to a) compliance with 6th Carbon budget and b) "*the direct, indirect and cumulative likely significant effects of the Scheme with other existing and/or approved projects on climate, including greenhouse gas emissions and climate change adaptation*".

128 Section 1.2.3 refers to "RESP-9.162" on the M25 junction 10/A3 Wisley scheme - "Applicant's Response to Secretary of State's Letter - 26 July 2021" [TR010030/APP/9.162 (Vol 9) Rev 0].

129 Section 1.2.4 makes a circular reference (see below) to other sections of REP4-051 (ie "Applicant's Summary of Oral Evidence Presented at Hearing"). And 1.2.4 notes that additional information, requested by the SoS for the A38 Derby scheme, relating to the Paris Agreement and the UK's nationally determined contribution under the Paris Agreement, the ExA is pointed to REP4-051/ANNEX B/1.3 (ie section 1.3).

130 Following the circular reference back to the main section of REP4-051, CEPP find that the references to more information for the two matters outlined at section 1.2.2 to be a wild goose chase. Little information is provided in the other sections of REP4-051; CEPP can only find the following:

1. REP4-051, Page 51/QIR-ISH2 column – the ExA's request for more information on A38 Derby and Action point ISH2/13 are noted.

2. REP4-051, Page 51/SAR-ISH2 column – Dr Boswell's reference to A38 Derby noted, and the Applicant notes that they said they will provide a more detailed response on the implications of this decision for the current scheme.

3. REP4-051, Page 55/AWR column - The Applicant states that they have provided a detailed response to the implications for the Scheme of the recent RIS2 challenge decision (including a link to the decision) and the quashing of the A38 Derby junctions DCO in Annex B to this document.

131 CEPP conclude that in response to Action point ISH2/13, that the Applicant has provided references to RESP-8.121 (Derby) and RESP-9.162 (Wisley), and REP4-051/ANNEX B/1.3 on the Paris agreement and the UK NDC.

132 This is hardly an adequate response to the ExA's Action point ISH2/13 and their own commitment at REP4-051, Page 51/SAR-ISH2 "to provide a more detailed response on the implications of this decision for the current scheme". They have failed to make a direct or substantive response to Action point ISH2/13, especially on a) 6th carbon budget compliance, and b) direct, indirect and cumulative likely significant effects of the Scheme with other existing and/or approved projects.

133 CEPP now comment further on Action point ISH2/13 by referring to National Highways response on the A38 Derby, "RESP-8.121".

10.1 CEPP Comments on Action point ISH2/13, A38 Derby

134 CEPP first note that Highways England (HE), as it was then, responded[28] at the A38 Derby Junctions ISH2 on cumulative emissions. In REP3-026 (TR010022, A38 Derby Junctions library), HE states that they do not consider it practical or possible to calculate cumulative impacts with other highways schemes in any meaningful way "due to constraints on data availability and scale of emissions that would need to be calculated". HE was of the view that the consideration of cumulative emissions with other road schemes and proposed developments was "a national policy issue, rather than a Scheme specific issue". This is recorded in the A38 Derby Junctions ExA's Recommendation Report[29] at 4.15.64.

135 The ExA clearly disagreed with this position of HE, as applicant for A38 Derby Junctions, as 4.15.116 of their Recommendation Report states:

[28] TR010022/APP/8.55, "Actions Arising out of Issue Specific Hearing 2 on 11 December 2019 for Deadline 3", [REP3-026] in the A38 Derby Library. PDF Page 67.

[29] [redacted]

*"We agree with Derby Climate Coalition, FoED and others that the emissions from the Proposed Development **should not be seen in isolation**. The Applicant was not able to provide an assessment of cumulative impacts of the Proposed Development with other highways developments, particularly given its approach of assessing the proposal against UK carbon budgets".*

136CEPP'S review of the A38 Derby junction scheme and the recent National Highway response to the SoS shows that the original Environmental Assessment made no claim to cumulative assessment, as evidenced above, but that following the High Court case, National Highways have attempted to retrofit cumulative assessment by the same "inherently cumulative" notion, as on the A47BNB and discussed in this document. In fact, the assessment in the A38 Derby case is also "inherently solus", and National Highways have the problem that they cannot demonstrate that a cumulative assessment has been made, and so are in breach of the EIA Regs and other guidance.

11 REP4-051/ANNEX B/1.3 PARIS AGREEMENT AND NDC

137Section 1.3.3 states the Applicant's misplaced belief that the "climate assessment will not impact the UK achieving its carbon reduction targets". CEPP have already indicated that this claim is make-belief based on various policy documents, rather than real action, and the Applicant ignores the scientific experts on risk assessment, and even the most senior advisor to the Government on Climate Change, Lord Deben in making such an unevidenced statement. The Applicant's problem is that they have not provided any real evidence for their presumed certainty that they attach to this statement ("will not").

12 REP4-051/ANNEX B/1.4 RIS2 CASE

138Sections 1.4.1 and 1.4.2 provide the background and link to the case.

12.1 General comments

139On 16 August 2021, TAN submitted an application to the Court of Appeal for permission to appeal the RIS2 judgment. TAN have provided further publicly available information to A428 Black Cat to Caxton Gibbet Road Examination [TR010044][30].

140The case turned on the carbon targets in place at the time of the decision to "set" RIS2 in March 2020. That was before the decisions to increase national carbon reduction targets to 68% by 2030 and 78% by 2035, effectively halving the time to reach the previous 80% by 2050 target. Indeed, the national emissions forecasts for 2040 that RIS1 was assessed against are no longer lawful. Decisions taken on road schemes now are taken against different and far more challenging short-term and medium-term carbon targets. CEPP have pointed out the very serious risks in failing to meet these very challenging carbon

[30] Not yet in the TR010044 library and website

budgets above, due to lack of current action, and evidenced by a very recent scientific risk assessment (Chatham House report) and from Governments own advisors.

12.2 REP4-051/ANNEX B/1.4.3 Relevance

141 CEPP note the ExA's role during the examination is to assess the merits of the application. This must, of course, be conducted in a lawful manner. However, it should be noted that such a role is distinctly different to that of an Administrative Court applying the principles of judicial review.

12.3 REP4-051/ANNEX B/1.4.4-1.4.7 Overall strategy for meeting carbon budgets

142 These sections repeat arguments around the flawed de minimus concept in relation to carbon emissions impacts from either a single scheme, or nationally.

143 At REP4-057, section 7.6, CEPP have given the reasons why the Court made no scientific or technical judgement on the de minimus issue (bullet 164). The Court was only accepting the DfT judgement on the matter in the context of an investment decision. The Court was clear that the RIS2 document was not an environmental decision-making document as the Applicant quotes at REP4-051/ANNEX B/1.4.3. And the Court indicated that matters around assessing the impacts of carbon emissions were not closed by the judgement, saying at (judgement) 123:

> *"Where environmental impact assessment is required for an individual project, the environmental statement may be required to address the impact upon the climate including GHG emissions (see e.g. regulation 14 and schedule 4 to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017-SI 2017 No 572)."*

144 The Applicant once again relies, in an attempt to justify the de minimus approach, on policy documents such as the Transport Decarbonisation Plan (TDP) and National Highways Net Zero Strategy, as if these can ensure that carbon budgets will be met. We have pointed out concerns above on meeting these very challenging carbon budgets, due to lack of current action, from very recent scientific risk assessment (Chatham House report) and from Governments own advisors. A document does not reduce carbon emissions: only the most stringent action, fully underwritten by the necessary funding, has even a remote chance of meeting climate targets.

145 CEPP understand that a key ground on the RIS2 Appeal will be that the Court took a flawed approach to the Secretary of State's analysis of greenhouse gas (GHG) emissions and its de minimis conclusion. The applicant relies on a similar argument here despite it being contested by leading UK transport experts.

12.4 REP4-051/ANNEX B/1.4.8 Overall strategy for meeting carbon budgets

146The Court did not make a preference for one expert's opinion over another. The Court made it clear it was not in a position to adjudicate between experts in saying at (judgment) 152:

> *"This is simply another difference of opinion between experts which, in proceedings for judicial review, the court is not in a position to resolve."*

At REP4-057, section 7.6, CEPP have given the reasons why the Court made no scientific or technical judgement on the de minimus issue (REP4-057 bullet 164).

In any case, the claimant is appealing that the Court took a flawed approach to the Secretary of State's analysis of greenhouse gas (GHG) emissions and its de minimis conclusion

13 REP4-051/ANNEX B/1.5 EIA Regulations and Likely Significant Climate Effects

13.1 Background

147Before responding in detail to REP4-051/ANNEX B/1.5, it is necessary to provide further information on the requirements for environmental assessment under NPS regime (including NPS NN) and the EIA Regulations themselves, and the EIA guidance.

13.2 The NPS regime (including NPS NN) requirements for environmental assessment

148NPS NN Section 4.15 to 4.21 describes how environmental assessment should be done.

149The NPS NN **directly invokes** the EIA Regulations ("EIA Regs") at NPS NN 4.15 and 4.16. These same invocations appear in most national policy statements NPSs[31], indicating the clear intention of the Government for environmental assessment in the NPS regime to be fully compliant with the EIA regime. CEPP note that the Courts are willing to enforce these requirements for environmental assessment, including cumulative assessment, as in the Pearce v BEIS[32] case.

150The text of NPS NN 4.15, quoted below, is directly "cut and paste" from the wording in the EIA Regs themselves on which further information is given at Appendices A and B.

> *"All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive and are likely to have significant effects on the environment, must be accompanied by an environmental statement (ES), describing the aspects of the environment likely to be significantly affected by the project. The*

[31] For example, section 4.12 and 4.13 of "Airports National Policy Statement; section 4.2 of the Overarching National Policy Statement for Energy (EN-1) although this invokes the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2009 No. 2263) ("the **2009** Regulations") rather than the more recent Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No. 572) ("the **2017** Regulations").

[32] Pearce v BEIS, 149: "Here the Claimant has succeeded in establishing a breach of the 2009 Regulations, as well as a domestic error of public law (irrationality) and a breach of the duty to give reasons (which straddles both EU and domestic law, the 2009 Regulations and the PA 2008)".

> *Directive specifically requires an environmental impact assessment to* ***identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them.*** *Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 sets out the information that should be included in the Environmental Statement including a description of 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, and also the measures envisaged for avoiding or mitigating significant adverse effects. Further guidance can be found in the online planning portal.*** *When examining a proposal, the Examining Authority should ensure that likely significant effects at all stages of the project have been adequately assessed. Any requests for environmental information not included in the original environmental statement should be proportionate and focus only on significant effects. In this NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits."* (our emphasis)

151 NPS NN 4.16 states:

> "*When considering significant cumulative effects, any environmental statement should provide information on* ***how the effects of the applicant's proposal would combine and interact with the effects of other development*** *(including projects for which consent has been granted, as well as those already in existence). …"* (our emphasis)

Such cumulative assessment has not been presented in the Environmental Statement breaching NPS NN 4.16. CEPP explain this in more detail later.

152 Specifically on assessment of carbon emissions in the Environmental Statement, Section 5.17 states:

> *"Where the development is subject to EIA,* ***any Environmental Statement will need to describe an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive."***

153 The EIA Regs require cumulative assessment of environmental factors, including "climate", meaning both "greenhouse gas emissions" and "impacts relevant to adaptation" by EIA Regs, Schedule 4, Para 4 and EIA Regs, Schedule 4, Para 5 (f).

154 NPS NN 4.16, above, direct requires cumulative assessment. As the NPS NN invokes the EIA Regs, as above, it also requires cumulative assessment of "climate", meaning both "greenhouse gas emissions" and "impacts relevant to adaptation" via its invocation of the EIA Regs. (CEPP do not consider adaptation issues further).

13.3 EIA Guidance documents

155 The EU Commission website hosts an official webpage for the EIA Directive[33], which lists a number of Guidance Documents.

156 Following the enactment of the reviewed EU EIA Directive "DIRECTIVE 2014/52/EU" in 2014, three guidance documents were published on the screening[34], scoping[35] and EUA report writing[36] stages in 2017.

157 Each of these 2017 guidance documents state that they "*aim[s] 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*". The guidance on the "Preparation of the Environmental Impact Assessment Report" is the document discussed by the Applicant at REP4-051/ANNEX B/1.5.

158 Under "*Climate change mitigation: Project impacts on climate change*" on page 39 of the report, it states:

> *"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."*

159 Whilst for cumulative effects[37] at page 50:

> *"[They] can arise from … the interaction between all of the different Projects in the same area;"*
>
> *"… 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.*" (our emphasis)

160 The guidance is promoted by the EU and identifies that Competent Authorities reviewing the EIA Report and using the information for decision-making, as one of its target audiences.[38]

[redacted] PDF page 52

[38] See "HOW TO USE THIS GUIDANCE DOCUMENT" section

161 From the same official webpage for the EIA Directive, further 2013 guidance is provided on "*Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment*". This guidance predates the 2014 Directive and was produced during the time of the 2011 EIA Directive "DIRECTIVE 2011/92/EU". The guidance was implemented for the European Commission under Study Contract No 07.0307/2010/580136/ETU/A3 with Members of the Commission Group of EIA/SEA National Experts and staff from three Directorate-General of the Commission[39]. It reflects the view of the Commission services of the best EIA practice, included those with transposed national regulations like the UK.

162 Section 4.4.2 of this guidance states:

> *"Judging an impact's magnitude and significance must be context-specific. For an individual project — e.g. a road project —* ***the contribution to GHGs may be insignificant on the global scale, but may well be significant on the local/regional scale, in terms of its contribution to set GHG-reduction targets.****"* (our emphasis)

In the context of the A47BNB, "global" in the above may be read as "national". The Applicant claims that an appraisal of delta emissions is insignificant against national budgets. The guidance rightly suggests carbon emissions assessed at a local/regional scale may well be significant.

163 CEPP have not been able to find any UK specific guidance relating to the EIA Regs that would provide different advice to the existing guidance on the official EU Commission webpage for the EIA Regs. It is therefore rational to apply guidance which was written to "*focus[es] on ensuring that the best possible information is made available during decision-making"* under the EIA Directive within the UK. Failure to even consider such guidance, as is the case in the Environmental Statement, is irrational. This supports CEPP's statement to the ISH2 that the A47BNB scheme is not "de minimus", and consideration should be given to assessment at the local and regional levels too.

164 CEPP have made clear above how the NPS NN invokes the EIA Regs at NPS NN sections 4.15 and 4.16. The Applicant has ignored two separate guidance documents, hosted on the official EU Commission EIA Regs webpage, which each recommend assessment of carbon emissions at the local and regional level, as well as national level, within

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[39] [redacted] The front page states "This document benefited from Study Contract No 07.0307/2010/580136/ETU/A3, implemented for the European Commission by

Milieu Ltd, Collingwood Environmental Planning Ltd and Integra Consulting Ltd. The main authors were: Jennifer McGuinn and Guillermo Hernandez from Milieu Ltd; Ric Eales, William Sheate and Jonathan Baker from Collingwood Environmental Planning; and Jiri Dusik from Integra Consulting. Maria Partidario of the Technical University of Lisbon and Helen Byron of the Royal Society for the Protection of Birds/Birdlife UK provided advice. Additional contributions about climate change were collected during the JASPERS workshops (March-April 2012). The text was also revised by Jiri Dusik. Members of the Commission Group of EIA/SEA National Experts (in particular, Paolo Boccardi, Susanna Eberhartinger-Tafill, Paul Fortuin, Aurora Hernando Garcinuno, Anna Kieniewicz, Gabrielle McKeown, Koen Maertens, Tadhg O'Mahony, Martine Moris, Kees Van Muiswinkel, Rainer Persidski, Claire Piens, Matthias Sauer, Roel Teeuwen, Adrian Vecino Varela) and staff of the European Commission's Directorate-General for Climate Action (Vaidotas Kuodys, Sami Zeidan), Directorate-General for Humanitarian Aid and Civil Protection (Yordanka Mincheva, Thomas de Lannoy) and Directorate-General for Environment (Stephanos Ampatzis, Szilvia Bosze, Marco Fritz, Milena Novakova and Przemyslaw Oginski) also Contributed"

Environmental Statements. In not even considering this guidance, the Applicant has failed to comply with NPS NN 4.15 and 4.16.

165 The EIA regulations require, then, that carbon assessment is done for the scheme itself and cumulation of effects of the scheme with other existing and/or approved projects, at the local and regional scale, as well as at the national scale.

13.4 REP4-051/ANNEX B/1.5.1

166 Paragraph 1.5.1 is a disingenuous attempt to disparage the EIA Guidance by using selective quotes. The quotes are standard disclaimers, and do not detract from the clear statements from the guidance described above that it:

- *aim[s] to help Developers and consultants alike prepare good quality Environmental Impact Assessment Reports*
- *to guide competent authorities and other interested parties as they review the Reports*
- *focuses on ensuring that the best possible information is made available during decision-making*

167 Whilst one of the Applicant's cherry-picked quotes says "*any existing national, regional or local guidance on EIAs should always be taken into consideration alongside this document*", the Applicant has not been able to provide any national, regional or local EIA guidance that says local and regional carbon assessment should not be done. Therefore, the Applicant should have had regard to the advice from the guidance that "*the assessment should take relevant greenhouse gas reduction targets at the national, regional, and local levels into account, where available"* in the Environmental Statement. Also Norfolk County Council have advocated using county-based transport data, as described at section 3.6, so that the impact would then not be diluted into the UK's overall impact.

13.5 REP4-051/ANNEX B/1.5.2

168 This paragraph continues the attempted "hatchet job" on the guidance. As the only existing guidance, the fact remains that the Applicant should have had regard to the advice from the guidance that "*the assessment should take relevant greenhouse gas reduction targets at the national, regional, and local levels into account, where available"* in the Environmental Statement. The fact that the guidance is not referred at all in the Application is clear evidence that the Applicant has not taken due regard of the guidance.

169 The Applicant mentions PINS Advice Note 17 in stating that "*it will be for applicants to ensure that all relevant policy, legislation and guidance has been applied*." CEPP's position is that the Applicant has not demonstrated that it has had regard to, let alone applied, all relevant policy, legislation and guidance. The Applicant has quite clearly not taken regard of the principle laid out in the NPS NN, and the NPS regime more generally, for environmental assessment which is fully compliant with the EIA regime (NPS NN 4.15 and 4.16).

13.6 REP4-051/ANNEX B/1.5.3

170 The claim at this section that the emissions assessment undertaken for the scheme "is not in breach of the guidance" is astounding. No evidence, or pointers to supporting sections of the Environmental Statement, is given by the Applicant to support this claim. The claim is manifestly not true.

13.7 REP4-051/ANNEX B/1.5.4

171 The EIA Guidance[40] advocates using more than a singular criterion for significance determination, and that a common approach used in EIA is the application of a multi-criteria analysis. It is not clear what point the Applicant is trying to make at REP4-051/ANNEX B/1.5.4.

13.8 REP4-051/ANNEX B/1.5.5

172 The methodology in the Environmental Statement for assessing carbon emissions is inherently solus. It is also clear that the Applicant did not consider the significance of cumulative effects on greenhouse gas emissions, as it is not mentioned in Chapter 14 of the Environmental Statement, but is now trying to retrofit the methodology as "inherently cumulative".

13.9 REP4-051/ANNEX B/1.5.6

173 The NPS NN invokes the EIA Regulations, and the RIS2 case supports the EIA Regulations at the DCO stage as explained above. The applicant does not mention cumulative assessment of carbon emissions, with respect to the EIA Regs, in Chapter 14 of the Environmental Statement. The problem for the Applicant is they have not demonstrated that that they have correctly applied the EIA Regs. The evidence presented in this document leads to the conclusion that the methodology is inherently solus, and the Applicant did not consider cumulative assessment of carbon emissions impacts. It is clear that the Applicant has not met the requirements in the EIA Regulations for cumulative assessment of carbon emission impacts.

The Secretary of States is required to have regard for the totality of the NPS NN, and the EIA Regs which are invoked by it.

13.10 REP4-051/ANNEX B/1.5.7

174 The problem for the Applicant is that the Environmental Statement does not comply with the EIA Regs, as laid out. The methodology is inherently solus. The Applicant has had no regard for the guidance which advocates multi-criteria assessment, and local and

[40] Paragraph 1.4.2, page 49, [redacted], 2017 – European Union

regional assessment of the impact on the scheme on carbon emissions, and targets and budgets.

14 CONCLUSIONS

Previously, CEPP have respectfully requested that the ExA gives serious consideration to suspending the Examination under EIA Reg 20 so that the missing data and non-compliances may be resolved in the Environmental Statement. This request has been made to the ExA's on the A47NTE and A47THI schemes too.

CEPP now requests for the examinations of the A47BNB, A47NTE and A47THI to be considered together, and for a joined-up response to be considered by the three ExA's on the fact that cumulative carbon assessment has not been carried out. In practical terms, this would require suspension of each examination under EIA Regulation 20, and then requiring the necessary remodelling and changes to the Environmental Statements for each scheme from a common "written statement" under EIA Regulation 20 (1)(a), (b) and (c). Although the A47NTE and A47THI examinations are at earlier stages, we are writing to the ExA's for these in parallel with the same request.

Dr Andrew Boswell,
Climate Emergency Policy and Planning, October 19th, 2021

15 APPENDIX A: NPS NN, Relevant sections on EIA Regs

175 The National Policy Statement for National Networks ("NPS NN") was promoted through the Planning Act 2008 ("PA2008"), approved by Parliament and published by the Secretary of State for Transport in December 2014.

176 Chapter 4 of the NPS NN (Department for Transport, 2014) sets out the principles for assessment of schemes such as the A47 Blofield to North Burlingham (A47BNB) under the PA2008 DCO planning regime.

177 Section 4.3 lays out that the Examining Authority and the Secretary of State, for any proposed development, should take into account:

- *"its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits;*

- *its potential adverse impacts, including* ***any longer-term and cumulative adverse impacts****, as well as any measures to avoid, reduce or compensate for any adverse impacts." (our emphasis)*

178 The A47BNB is an Environmental Impact Assessment (EIA) project – see [APP-135, EIA Scoping Report], and legislative context and need for EIA at section 1.5 of APP-135.

179 NPS NN Section 4.15 to 4.21 describes how environmental assessment should be done.

> *"The Directive specifically requires an environmental impact assessment to* ***identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them.*** *Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 sets out the information that should be included in the Environmental Statement including a description of 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, and also the measures envisaged for avoiding or mitigating significant adverse effects.****" (our emphasis)*

180 Section 4.16 states:

> "*When considering significant cumulative effects, any environmental statement should provide information on* ***how the effects of the applicant's proposal would combine and interact with the effects of other development*** *(including projects for which consent has been granted, as well as those already in existence)." (our emphasis)*

181 Specifically on assessment of carbon emissions in the Environmental Statement, Section 5.17 states:

> *"Where the development is subject to EIA,* ***any Environmental Statement will need to describe an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive.****"*

182 CEPP also note that the EIA Scoping Opinion [APP-136] by the Planning Inspectorate on behalf of the SoS states on Combined and Cumulative Effects (Scoping Report section 15) at ID 4.11.4 (in the "Aspect Based Scoping Tables" section4):

> "***The cumulative assessment should include the Norwich Link Road*** *which is proposed to be built in proximity to the Proposed Development and may have an overlapping construction period with the Proposed Development.*" *(our emphasis)*

183 Further, Natural England (in letter 18th October 2019) makes these comments on the EIA Scoping opinion. Following quoting Schedule 4 of the EIA Regs (see Appendix B), it states:

> *"It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals (****in particular the proposed Norwich Western Link Road****) and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment."* (Emphasis as in original)

16 APPENDIX B: EIA Regulations

184The A47BNB is an EIA development and the decision-making process, therefore, needed to comply with the EIA Regs.[41] As CEPP note above in Appendix A, the NPS NN Section 4.15 to 4.21 also requires compliance with the EIA Regs.

185Reg 4(2) prohibits the granting of development consent for EIA development "unless an EIA has been carried out in respect of that application". The EIA is defined in Reg 5 as:

> *(1) The environmental impact assessment ("the EIA") is a process consisting of—*
> *(a) the preparation of an Environmental Statement or updated Environmental Statement, as appropriate, by the applicant;*
> *(b) the carrying out of any consultation, publication and notification as required under these Regulations or, as necessary, any other enactment in respect of EIA development; and*
> *(c) the steps that are required to be undertaken by the Secretary of State under regulation 21 or by the relevant authority under regulation 25, as appropriate.*
> *(2) The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors—*
> *(a) population and human health;*
> *(b) biodiversity, with particular attention to species and habitats protected under any law that implemented Directive 92/43/EEC[42] and Directive 2009/147/EC[43];*
> *(c) land, soil, water, air and **climate**;*
> *(d) material assets, cultural heritage and the landscape;*
> *(e) the interaction between the factors referred to in sub-paragraphs (a) to (d).*
> *(3) The effects referred to in paragraph (2) on the factors set out in that paragraph must include the operational effects of the proposed development, where the proposed development will have operational effects.*
> *(…) (our emphasis)*

186The Environmental Statement, is further defined in Reg 14:

> *(1) An application for an order granting development consent for EIA development must be accompanied by an Environmental Statement.*

[41] Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

[42] Habitats Directive

[43] Wild Birds Directive

(2) An Environmental Statement is a statement which includes at least—

(a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;
(b) a description of the likely significant effects of the proposed development on the environment;
(c) a description of any features of the proposed development, 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 applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
(e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and
(f) any additional information ***specified in Schedule 4*** *relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected. (our emphasis)*

187Schedule 4 of the EIA Regs then sets out in more detail the information to be included in Environmental Statements. This includes, *inter alia*:

"Para 1:
A description of the development, including in particular—
*… (c) a description of the main characteristics of the operational phase of the development (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****[44]) used;*

Para 4:
A description of the factors specified in regulation 5(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, ***climate (for example greenhouse gas emissions****, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.*

Para 5

[44] This is relevant to land-use and land-clearance emissions from roads infrastructure construction as discussed in main text

A description of the likely significant effects of the development on the environment resulting from, inter alia—

(a) the construction and existence of the development, including, where relevant, demolition works;

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

*(c) the **emission of pollutants**, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;*

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

*(e) **the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to** areas of particular environmental importance likely to be affected or the use of natural resources;*

*(f) the impact of the project on **climate (for example the nature and magnitude of greenhouse gas emissions)** and the vulnerability of the project to climate change;*

(g) the technologies and the substances used.

*The description of the likely significant effects on the factors specified in regulation 5(2) 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 development.*

*This description **should take into account the environmental protection objectives established at Union level** (as they had effect immediately before exit day) or United Kingdom level which are relevant to the project, including in particular those established under [the law of any part of the United Kingdom that implemented Council Directive 92/43/EEC and Directive 2009/147/EC." (our emphasis)*

188 Paragraph 5 of Schedule 4 above shows that the Environmental Statement must 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 development", taking into account the "**environmental protection objectives**" established both at EU and UK level. The "objectives" include relevant climate change targets set under UK law including:

- the UK's Nationally Determined Contribution (NDC) under the Paris agreement
- the legally binding target under the Climate Change Act 2008 to meet net-zero carbon emissions by 2050
- the UK Sixth Carbon Budget (6CB), and other carbon budgets and policy within that
- the Governments recent Transport Decarbonisation Plan (TDP)

- NPPF 148 planning requirement to "radical reductions of greenhouse gas emissions",
- the statutory duty on Highways England under the Infrastructure Act 2015 section 5(2) to have regard for the environment

189 Finally, EIA Reg 20 allows for an Examining Authority to suspend consideration of an application if the Environmental Statement is found to be inadequate:

a. "Reg 20(2)
This paragraph applies if—
(a)the applicant has submitted a statement that the applicant refers to as an Environmental Statement; and
(b)the Examining authority is of the view that it is necessary for the statement to contain further information.

b. Reg 20(1)
Where an Examining authority is examining an application for an order granting development consent and paragraph (2) applies, the Examining authority must—
(a)issue a written statement giving clearly and precisely the reasons for its conclusion;
(b)send a copy of that written statement to the applicant; and
(c)suspend consideration of the application until the requirements of paragraph (3) and, where appropriate, paragraph (4) are satisfied." *(our emphasis)*

17 APPENDIX C: Highways England Licence

190The Highways England licence requires at 5.23

> *"5.23 … the Licence holder should:*
> *…*
> *c.* ***Consider the cumulative environmental impact of its activities across its network*** *and identify holistic approaches to mitigate such impacts and improve environmental performance;"*

18 APPENDIX D: INDEX of documents previously submitted by CEPP

191 For reference an index of CEPP's previously submitted documents (latest first) is given here.

a. [REP4-057] Deadline 4 Submission. This document revised the Written Representation (with change bars), and provided:

   i. Written summary of oral submissions given at Issue Specific Hearing 2 (ISH2) as recorded [EV-026[45]];

   ii. Post-hearing notes from ISH2, based on the ExA's actions points document "TR010040-000551-TR010040_Action Points from ISH1, CAH1, ISH2 and ISH3.pdf" [NO-LIBRARY-CODE][46] ; and

   iii. Comments on Deadline 3 submissions (9.14 applicant's Response to Written Representations" [REP3-025])

b. [REP2-018] Deadline 2 Submission - Written Representation

c. [REP1-074] Deadline 1 Submission - Response to the ExA's request for further information under Rule 17

d. [PDB-002] Submission for Procedural Deadline B - Written Responses to Matters Discussed at Preliminary Meeting Part 1

e. [AS-024] Additional Submission accepted at the discretion of the Examining Authority (letter in advanced of ISH2)

f. [AS-023] Additional Submission accepted at the discretion of the Examining Authority (letter in advanced of ISH2)

g. [RR-012] Relevant Representation

[45] We refer to the recording, EV-026, at [redacted] as the transcript is not good enough quality when detailed technical points are being discussed.

[46] CEPP note that this document is on the website [redacted] but Is not listed in the Examination Library document of 11th October 2021

19 APPENDIX E: CHATHAM HOUSE, CLIMATE CHANGE RISK ASSESSMENT 2021

<Provided as a separate file: CEPP_BOSWELL_D5__APP_E___ 2021-09-14-climate-change-risk-assessment-summ.pdf >

20 APPENDIX F: NCC LTP4 DELAY: PRESS ARTICLE

<Provided as a separate file:
CEPP_BOSWELL_D5__APP_F__NCC_LTP4_DELAY_PRESS_ARTICLE.pdf >

21 APPENDIX G: NCC LOBBY FOR FURTHER A47 ROAD PROJECTS

<Provided as a separate file: CEPP_BOSWELL_D5__APP_G___ NCC_A47_CAMPAIGN.pdf>