

**National Highways: A303 Amesbury to
Berwick Down Project, Development Consent
Order Application**

Scheme Reference: TR010025

Updated Carbon Issues

**Response to Secretary of State's call for further
comments on the Applicant's updated
information on carbon**

for

**The Stonehenge Alliance
(Reference No. 2001870)**

Prepared by:

**Dr Simon Temple,
Professor Phil Goodwin,
Chris Todd**

June 2022

1. Introduction

1.1 In his letter, dated 29 April 2022¹, the Secretary of State stated:

“The Secretary of State acknowledges the responses to his consultation letter of 24 February 2022 and would now like to invite comments from all interested parties on the updated information on carbon provided by the Applicant.”

1.2 This document is the Stonehenge Alliance’s response to that invitation and outlines its continued concern about the way that National Highways (NH) is failing to properly assess the carbon emissions from its road schemes, including the A303 Stonehenge project.

1.3 It starts by examining the consistency of NH’s approach compared with Government policy on how carbon emissions should be assessed, including their significance. We then explore the need for a regional and local context before assessing the approach to cumulative impacts.

2. Consistency with the Government’s Transport Decarbonisation Strategy

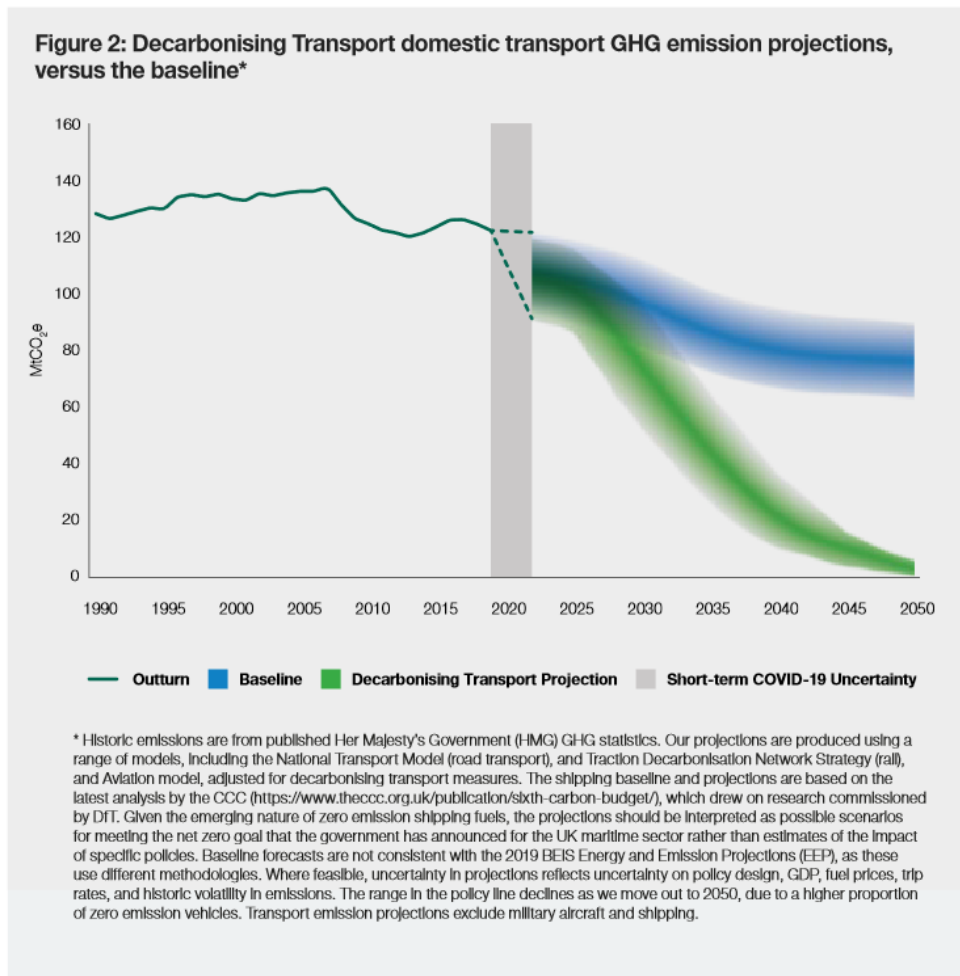
2.1 In paragraph 1.2.16² NH states:

*“National Highways, for its operational carbon assessments for the Scheme presented **in the 2018 ES**, during Examination and subsequently, has evaluated the changes in CO₂e emissions of the Scheme by comparing changes in the road traffic on the Strategic Road Network and local road network between the ‘without scheme scenario’ and the ‘with scheme scenario’. This takes into account the assessment of the Scheme **and all other developments likely to have an influence on the Scheme and on the area the Scheme is likely to influence.**”* [Our emphases]

2.2 A crucial part of NH’s argument is that since its 2018 calculations, the Government has produced a Transport Decarbonisation Plan (TDP). NH reproduces a key figure (Figure 2) from that plan, which we also reproduce below.

¹ [Letter from Secretary of State inviting comments on National Highways’ latest carbon submission](#) – DfT, 29 April, 2022

² [Applicant’s Response to the Secretary of State’s Consultation of 24 February, 2022](#): Request to update section 4 of their response to the Statement of Matters on carbon – National Highways, April 2022



2.3 The figure shows two future trajectories for carbon emissions in transport (each rather ‘fuzzy’ reflecting the inherent uncertainty in all forecasts, whether of traffic or carbon emissions). The blue trajectory, continuing the trend shown in recent years, is described as the ‘baseline’. It shows a modest decline in carbon emissions, but the decline is not sufficient to meet the Government’s declared objectives, neither in the short run in the 2020s and 2030s nor in the long run objective by 2050. The green trajectory comprises a modelled estimate of the effects on road transport carbon emissions of a series of already announced policies and initiatives, comprising the Government’s Transport Decarbonisation Plan (TDP). These are listed in paragraphs 2.7 and 2.8 below.

2.4 NH reports (paragraph 1.5.8³) that:

³ [Applicant’s Response to the Secretary of State’s Consultation of 24 February, 2022](#): Request to update section 4 of their response to the Statement of Matters on carbon – National Highways, April 2022

“The DfT has advised National Highways that a sensitivity test based on the impact of the policy measures set out in TDP can now be undertaken for schemes. The DfT have approved a sensitivity test based on the rate of improvement shown in Figure 2 of the TDP...”

- 2.5 It goes on to state: **“which can be applied to CO2e emissions calculated for the Scheme assessment”**. [Our emphasis]
- 2.6 In doing so it introduces a fundamental logical contradiction to the claim in its report that the traffic forecasts on which the scheme is appraised take into account **“all other developments likely to have an influence on the Scheme and on the area the Scheme is likely to influence”** as quoted in our paragraph 2.1, above.
- 2.7 The contradiction arises because the green trajectory, in figure 2 above, which shows a much faster rate of decline in CO2e emissions than the baseline, only does so *as a result of the policy implementation* arising from the decarbonisation plan. This includes not only further reductions in emissions from electrification of vehicles, but assumes successful implementation of active travel measures aimed at securing 50% of all urban journeys to be made by walking and cycling, as part of the objective to *“make public transport, cycling and walking the natural first choice for all who can take it”*, as the Secretary of State for Transport wrote in his own introduction to the TDP.
- 2.8 It is a fundamental property of the models used for forecasting demand that such a shift in the number of urban journeys by different modes must also have effects on the longer distance journeys between towns, since people change not only the mode of their journeys but also their destinations. Most inter-urban trips have at least one urban trip end, and often both. Thus there is an important connection between achieving the urban target and its effect on interurban traffic. This is reinforced by further policies in the decarbonising transport paper, including transferring longer distance trips to rail and express coaches, increasing the average occupancy of cars (thus reducing the vehicle mileage), and land use planning to enable lifestyle changes which are less dependent on car use. As the Secretary of State wrote in his Introduction, this would reduce the growth in traffic overall, or at least stabilise traffic levels:
- “It's about using cars less, not giving them up completely... We want to reduce urban road traffic overall. Improvements to public transport, walking and cycling, promoting ridesharing and higher car occupancy, and the changes in commuting, shopping and business travel accelerated by the pandemic, also offer the opportunity for **a reduction or at least a stabilisation, in traffic more widely.**”*
[Our emphasis]
- 2.9 Thus, taken together, these initiatives make a material change to the traffic forecasts on which the need for the scheme has been predicated. *There are two incompatible assumptions made by NH, namely that the high traffic growth in its original forecast*

will continue to cause congestion which will be relieved by the scheme, and the lower traffic growth, or decline, which is inherent to the decarbonisation strategy to deliver lower carbon emissions. If the decarbonisation strategy were indeed successful as planned, there would be less traffic and the scheme would produce less time savings.

2.10 We consider that this contradiction seriously compromises the appraisal calculations. To claim simultaneously the carbon benefit calculated from lower levels of traffic as well as the decongestion benefit calculated from higher levels of traffic is a form of cherry-picking assumptions which gives appraisal a bad name.

2.11 NH makes the following argument in paragraph 1.3.4, parts b and c:

*“b) **Neither Parliament nor Government has identified any sectoral targets for carbon reductions related to transport, or any other sector.** There is no requirement in the CCA 2008, or in Government policy, for carbon emissions for all road transport to become net zero. This was explained in the R (Transport Action Network) v Secretary of State for Transport [2021] EWHC 2095 (Admin) (“the TAN case”) in which Holgate J held that:*

*“...**there is no sectoral target for transport,** or any other sector, and that emissions in one sector, or in part of one sector, may be balanced against better performance in others. A net increase in emissions from a particular policy or project is managed within the government's overall strategy for meeting carbon budgets and the net zero target as part of "an economy-wide transition."*

*c) A net increase in emissions from a particular policy or project is thus managed within the Government's **overall** strategy for meeting carbon budgets and the net zero target as part of an economy-wide transition.” [Our emphases]*

2.12 Thus NH argues in paragraph 1.3.11:

*“Accordingly, National Highways is not in a position to provide an assessment of the cumulative effects of the greenhouse gas emissions for the Scheme for **anything other than the national level carbon budgets.**” [Our emphasis]*

2.13 However, the Decarbonising Transport Strategy of 2021-22 changes that position, because it is a clear case where a sectoral target for transport **has** now been identified in Government policy, even if it had not been identified prior to that. NH itself clearly accepts that, in using it to justify revising its carbon calculations to include its effect. There would be no point in doing so unless it is accepted that the direct and indirect effects of road projects, considered individually and taken together, are an integral component of the decarbonisation strategy *for transport*, and therefore legitimately to

be compared with the total emissions for the sector, rather than diminished by comparison only with overall carbon budgets. The ‘TAN case’ ruling, in that particular element at least, no longer applies because the statement of fact from which it derived – there is no sectoral target for transport – has been materially altered by Government’s adoption of the Decarbonising Transport Strategy.

2.14 In conclusion, the Government, in its Decarbonising Transport Strategy, has indeed made such an analysis for the transport sector as a whole (and within it, separate calculations for road transport, air, sea etc, which are referred to in the DfT’s own footnotes to its figure showing the decarbonisation trajectories, as reproduced in paragraph 2.2 above). This makes NH claims that such an assessment is impossible for its own activities less credible. Given willingness and, apparently, some skill and competence by the Government to do so, it makes NH’s refusal on the grounds that it is not legally required to do such an analysis, appear unreasonable.

3. Avoiding harm and undertaking thorough assessment

3.1 The Institute of Environmental Management & Assessment (IEMA) Guide usefully sets out the need to address reducing emissions at the earliest stages of development of a project. It also sets out a mitigation hierarchy to eliminate, reduce, substitute and compensate. Indeed, the first step is: Do Not Build, followed by: Build less⁴.

3.2 The guidance highlights the need for an assessment to:

“ ... include all material emissions... direct or indirect (based on the point above), during the whole life of the proposed project. The boundary of the assessment should be clearly defined, in alignment with best practice

- *The assessment should seek to present a reasonable worst case*
- *Any exclusions, limitations, assumptions and uncertainties should be justified and reported where appropriate” (Section 5.2)*

3.3 It is also clear about when emissions can be excluded:

“Activities that do not significantly change the result of the assessment can be excluded where expected emissions are less than 1% of total emissions, and where all such exclusions total a maximum of 5% of total emissions; all exclusions should be clearly stated.” (Section 5.3, Step 3)

⁴ Assessing Greenhouse Gas Emissions and Evaluating their Significance (2nd edition), Section 2.2, page 9 – IEMA, February 2022

- 3.4 It is clear from the above that National Highways is not following IEMA guidance to minimise emissions arising from the project, nor does it properly assess the full range of direct and indirect emissions associated with it. It certainly does not give reasoned and evidenced justification, for example, to ignore indirect emissions.

4. Significance of carbon emissions

- 4.1 National Highways continues to point to paragraph 5.18 in the National Policy Statement for National Networks (NPSNN) as additional justification for its position to disregard carbon emissions or label them as insignificant. However, what it fails to highlight is that the NPSNN also says the following at paragraph 4.15:

*“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 emphases]

- 4.2 Paragraph 4.17 states:

“The Examining Authority should consider how significant cumulative effects and the interrelationship between effects might as a whole affect the environment, even though they may be acceptable when considered on an individual basis with mitigation measures in place.”

- 4.3 While in paragraph 5.17, it 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.”* [Our emphasis]

- 4.4 It should be noted that the EIA regulations do not define significance for climate nor indeed anything else as shown from the EIA guidance reproduced here⁵:

⁵ Paragraph 1.4.1, pages 47-48, [Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report](#) – European Union, 2017. f

“1.4.1 Legal framework of significant effects

The EIA Directive stipulates that ‘significant’ effects must be considered when it comes to assessing the effects (or impacts) on the environment. The concept of significance considers whether or not a Project’s impact could be determined to be unacceptable in its environmental and social contexts. The assessment of significance relies on informed, expert judgement about what is important, desirable or acceptable with regards to changes triggered by the Project in question.

*This limits the assessment to those impacts that are likely to have a significant or important enough impact on the environment to merit the costs of assessment, review, and decision-making. While the concept of significant effects is referred to several times throughout the EIA Directive (see the box below), **no clear definition is provided**, and significance has to be assessed in light of the Project’s specific circumstances...” [Our emphasis]*

4.5 It is worth noting that the guidance also states⁶:

*“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]*

4.6 This would indicate that an issue of great public concern, such as climate change, should be considered as a significant impact, regardless of any arguments about exact numerical magnitude.

4.7 Additionally, the guidance does not say that carbon emissions, or indeed any other metric, should only be assessed against the UK’s (or any other national) budgets or inventories. That would be inappropriate as it would rule out considering most things as having significant impact on any rational basis. It is also important to emphasise that carbon emissions are the only metric to be evaluated in this way in the NPSNN or indeed anywhere else as far as we are aware. If you assess the economic benefits of the scheme in this way, these come out at an even smaller percentage compared with

⁶ Paragraph 1.4.2, page 49, [Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report](#) – European Union, 2017

UK GDP⁷. On that basis the economic benefits of the scheme should be dismissed as insignificant, severely undermining the case for the new road.

- 4.8 Finally, it is worth pointing out that paragraph 5.18 of the NPSNN does not rule out carbon emissions being significant. Its wording states that:

*“...unless the increase in carbon emissions resulting from the proposed scheme are **so significant...**”* [our emphasis].

- 4.9 It is clearly not prescribing what significant is or is not, as NH suggests, only that in terms of the SoS’s decision making process, emissions would have to be especially significant (at a national level) for him to refuse permission on carbon grounds. Therefore, it is perfectly consistent with NPSNN paragraph 5.18 for the carbon emissions associated with a road scheme to be described as significant. From this it is clear that National Highways have misunderstood the wording in the NPSNN and its ‘so significant’ test.
- 4.10 It is worth noting that the current test in the NPSNN, using a comparison with national carbon budgets as a threshold for considering carbon as a reason for refusing development consent, would appear irrational in any case given the guidance set out in paragraph 4.21 below. It would seem to be there to allow projects to be approved by downgrading the importance of their carbon impact, which would also appear to be at odds with Parliament’s declared climate emergency⁸.

DMRB guidance LA114

- 4.11 The problem is that the guidance that NH has written for itself is not consistent with the guidance for the EIA regulations as set out above. In DMRB LA114⁹, as described in the Applicant’s response to the Statement of Matters on carbon¹⁰, NH appears to be suggesting that no amount of carbon emissions will be deemed significant unless they are so large as to affect the Government’s ability to meet the UK wide carbon reduction targets.
- 4.12 It is highly implausible that any one scheme on its own would do this and is a way of dismissing carbon as a factor in scheme determination. This is a bizarre position to take in a climate emergency. An emergency would suggest that the sensible course

⁷ [Ridiculous Carbon Test](#) – TAN website

⁸ [UK Parliament website](#) – 1 May, 2019

⁹ [DMRB LA114](#), Note 2 and para 3.20 – National Highways, June 2021

¹⁰ [Applicant’s Response to the Statement of Matters Bullet Point 3 – Carbon](#), paragraph 2.2.2 – National Highways, January 2022

of action would be to take all possible action, as quickly as possible, to reduce carbon emissions.

- 4.13 Given the divergence from EIA guidance, which does not define significance but points out that it should reflect what is valued **by regulators and by public and private stakeholders**, we believe that NH is misdirecting itself with this advice. This is highlighted by the IEMA guidance below.

Institute of Environmental Management and Assessment (2022) EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance: 2nd edition.

- 4.14 The latest guidance from Institute of Environmental Management and Assessment (IEMA) reinforces our concerns with NH's approach and guidance¹¹:

"GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit; as such any GHG emissions or reductions from a project might be considered to be significant"

- 4.15 It goes on to say (section 6.2, page 24):

"The crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050." [Their emphasis]

- 4.16 It then defines significance as follows (section 6.3, page 25):

*"A project that follows a 'business-as-usual' or 'do minimum' approach and is not compatible with the UK's net zero trajectory, or accepted aligned practice or area-based transition targets, results in a **significant adverse** effect. It is down to the practitioner to differentiate between the 'level' of significant adverse effects e.g. 'moderate' or 'major' adverse effects (see Box 3 for an example of such a differentiation)." [Their emphasis]*

- 4.17 Extract from Box 3: Examples of significance criteria, page 26:

*"Major adverse: the project's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. **A project with major adverse effects is locking in***

¹¹ Assessing Greenhouse Gas Emissions and Evaluating their Significance (2nd edition), Paragraph 6.1, bullet 3 – IEMA, February 2022

emissions and does not make a meaningful contribution to the UK's trajectory towards net zero. [Our emphasis]

Moderate adverse: the project's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero."

- 4.18 A new road involves a substantial outlay of carbon through changes in land use, soil degradation, land clearance and the construction itself, such as from moving and manufacturing materials. In addition, a new road is likely to change the volume of traffic across a whole network, generating additional 'user' emissions that arise once the road is open for use. Both of these elements are largely calculated by National Highways in its assessment of a scheme's carbon emissions.
- 4.19 However, in relation to minimising carbon, the only elements of the project that NH considers are the construction emissions, alongside the land use clearance and change emissions. NH ignores user emissions, in terms of mitigation, even when these can be as substantial, or even greater, than the construction emissions. Even when NH explores reducing construction emissions, it is not clear whether or not the project is fully contributing to the UK's trajectory towards net-zero.
- 4.20 By ignoring user emissions, which NH fails to properly calculate, it is taking a do minimum approach. Thus, the road project cannot be said to be making a meaningful contribution to the UK's trajectory towards net-zero. That leaves only one possible conclusion, that NH fails to acknowledge: that new roads generally have a major adverse effect on climate change and their impact is significant.
- 4.21 It is worth noting that in section 6.4, page 27 the guidance states:

*"The UK has a defined national carbon budget and budgets set by devolved administrations which have been determined as being compatible with net zero and international climate commitments. The starting point for context is therefore the percentage contribution to the national or devolved administration carbon budget as advised by the CCC. **However, the contribution of most individual projects to national-level budgets will be small and so this context will have limited value.**"* [Our emphasis]

4.22 For NH to continue to state that the carbon emissions from the scheme are not significant is untenable¹². We suggest this might be a reason why NH was asked to provide the SOS with further information on the scheme’s carbon emissions.

4.23 An example of how carbon emissions should be assessed is shown by a report produced by WSP¹³ for the Shrewsbury North West Relief Road which concludes:

“9.9.13. IEMA guidance suggests that all GHG emissions are significant in the absence of any significance criteria or defined threshold. DMRB LA114 states that, only projects where increases in GHG emissions have a material impact on the ability of Government to meet its carbon reduction targets should report on significance of effects.

9.9.14. In the absence of agreed thresholds for what level of GHG emissions is considered significant in an EIA context, IEMA guidance and professional judgement including previous experience of road infrastructure schemes has been used to assess the magnitude of change based on schemes of a similar size and nature.

*9.9.15. GHG emissions would be generated during the construction phase of the Proposed Scheme and would likely have an **adverse** effect. The magnitude of change in GHG emissions during construction would be **moderate**. The adverse effect is considered to be **significant** for the construction phase.”*

5. Local and regional assessments

5.1 The NPSNN is quite clear in paragraphs 4.3 and 4.4 that environmental impacts should be considered at national, regional and local levels:

“4.3 In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State 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;*

¹² [Applicant’s Update to Section 4 of their Response to the Statement of Matters on Carbon](#), paragraph 1.6.4 – National Highways, April 2022

¹³ [Shrewsbury North West Relief Road Environmental Statement Vol 1](#) – WSP for Shropshire Council, February 2021

- *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.*

4.4 *In this context, **environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels.** These may be identified in this NPS, or elsewhere.” [Our emphases]*

5.2 Similarly, but in this case explicitly mentioning carbon, EIA guidance is clear about assessing carbon against relevant local and regional targets. When combined with the IEMA guidance above which highlights that comparing an individual project’s emissions to national-level budgets *will have limited value*, it is clear that NH’s approach is also out of date in continuing to insist that:

“...there is no reasonable basis upon which National Highways can assess the carbon emissions impact of the Scheme at a local or regional level...”¹⁴

5.3 If the information did not exist or would be incredibly expensive to calculate, that would be the only legitimate reason for stating the above. Neither, however, is true. As the guidance in IEMA points out:

“The available contextual information base is rapidly developing and will continue to grow in the coming years as developments such as sector initiatives, locally set carbon budgets and the Task Force on Climate-Related Financial Disclosures (TCFD) and transition risk scenario analysis progress.”¹⁵

5.4 In the same section it goes on to list some of the existing resources that are available to help with that contextualisation:

“Similarly, the CCC has determined a UK wide carbon budget broken down into the following key sectors: surface transport, buildings, manufacturing and construction, electricity generation, fuel supply, agriculture and land use, land-use change and forestry (LULUCF), aviation, shipping, waste, F-gases, and greenhouse gas removals. Researchers at the Tyndall Centre at the University of Manchester have proposed local authority scale carbon budgets that are compatible with the UK’s commitments under the Paris Agreement.”

“The good practice approach included in Figure 6 below provides an example of how to contextualise your project’s carbon footprint against pre-determined

¹⁴ [Applicant’s Update to Section 4 of their Response to the Statement of Matters on Carbon](#), paragraph 1.6.6 – National Highways, April 2022

¹⁵ Assessing Greenhouse Gas Emissions and Evaluating their Significance (2nd edition), Section 6.4 – IEMA, February 2022

carbon budgets or against emerging policy and performance standards where a budget is not available.”

5.5 To put it bluntly, NH’s claims are untenable and the reason it doesn’t want to provide this information is that it would inconveniently help demonstrate just how impactful new road schemes are.

5.6 To further highlight that it is possible to calculate local emissions, WSP’s Environmental Statement for Shropshire Council on the Shrewsbury North West Relief Road¹⁶ provides transport emissions for Shropshire, West Midlands and nationally. These are taken from the Department for Business, Energy & Industrial Strategy’s (BEIS) UK local authority and regional carbon dioxide emissions national statistics¹⁷. In paragraph 9.7.11, the Environmental Statement states:

*“In terms of context, the carbon budgets presented are useful. However, the NPSNN 2014 sets out that “it is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets.” To provide additional context, the transport emissions from 2018 within Shropshire, West Midlands and nationally are presented in **Table 9-7**—expressed in thousands of tonnes of carbon dioxide equivalents (ktCO₂e).”*

5.7 Therefore, it recognises that more context is needed and that comparing the emissions from a single road to a national carbon budget is of little help to the decision-making process.

5.8 It is also worth noting that carbon budgets for any combination of local authority areas can be calculated using the Tyndall Centre’s carbon budget calculator tool as pointed out in the IEMA guidance above.

5.9 Further evidence that using more local data can and should be used comes from Norfolk County Council’s Planning and Highways Delegations Committee report on the A47/A11 Thickthorn Junction¹⁸, which in paragraph 3.52, page 104 states:

“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

¹⁶ [Shrewsbury North West Relief Road Environmental Statement Vol 1](#), WSP for Shropshire Council, February 2021

¹⁷ [UK local authority and regional carbon dioxide emissions national statistics, 2005 – 2019](#) (latest available statistics) – BEIS, 2021

¹⁸ Norfolk County Council’s [Planning and Highways Delegations Committee report](#) on the A47/A11 Thickthorn Junction (Item 9, pages 65 - 108) (3 June 2021)

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.”

6. Cumulative Impacts

- 6.1 A303 Stonehenge is not an isolated project. It is part of a programme to make the whole of the A303/ A358 corridor an Expressway and it is also part of the nationwide Road Investment Strategy 2 (RIS 2). The projects in the wider road programmes will each result in higher carbon emissions making it harder to achieve the overall reduction targets if they are implemented.
- 6.2 In order to understand the carbon impacts of the programmes, it is important that the cumulative carbon impacts are assessed. This should be done both for the A303 programme as a whole and for the national RIS 2 strategy.
- 6.3 In his letter of 24th February 2022, the Secretary of State:

*“invites the Applicant to update section 4 of their response to the Statement of Matters on carbon to provide its assessment of the cumulative effects of Greenhouse Gas emissions from the scheme with other **existing and/or approved projects on a local, regional and national level** on a consistent geographical scale (for example an assessment of the **cumulative effects of the Roads Investment Strategy RIS 1 and RIS 2 at a national level**). This should... identify any relevant local, regional or national targets/budgets where they exist and how the assessment complies with these (including the carbon budgets, the 2050 zero target under the Climate Change Act 2008, and the UK’s Nationally Determined Contribution under the Paris Agreement).”¹⁹ [Our emphases]*

- 6.4 In Section 1.3 of its response²⁰ NH argues that the Government has not set out sectoral or regional carbon budgets so there is no basis against which to measure the project. However, the Climate Change Committee sets out a target in its 6th Carbon Budget recommendations²¹ to reduce surface transport CO² emissions from 113 MtCO₂e in 2019 to 32 MtCO₂e by 2035 in its Balanced Net Zero Pathway. The strategy to achieve this includes a 9% reduction in car miles, 3% for vans and 10% for Heavy Goods Vehicles compared with the baseline projection. This is a sectoral target, supported by detailed analysis of the measures needed to achieve it. Given that the overall carbon reduction recommended by the Committee has been accepted by Government and

¹⁹ [Letter from Secretary of State inviting the Applicant to update section 4 of their response to the Statement of Matters on carbon](#) – DFT, 24th February 2022

²⁰ [Applicant’s Response to the Secretary of State’s Consultation of 24 February, 2022](#): Request to update section 4 of their response to the Statement of Matters on carbon – National Highways, April 2022

²¹ [The Sixth Carbon Budget: The UK’s Path to Net Zero](#) – Climate Change Committee, December 2020

enshrined in the 2021 Carbon Budget Order²² and that the Government has subsequently published *Decarbonising Transport: A Better, Greener Britain*, this is now policy, albeit without a published implementation plan.

- 6.5 Accordingly, if the Secretary of State were to approve a road project that increased carbon emissions, an additional reduction would be needed elsewhere (in transport or another sector) to meet the overall, legally required, carbon budget. It is therefore essential to understand the cumulative effects at a national and regional level, to support evidence-based decision making. This was specifically requested by the Secretary of State in his February 24th letter and has not been provided by NH.
- 6.6 The principle of acknowledging and measuring cumulative effects is further strengthened by DEFRA's recently published "Draft Environmental Principles Policy Paper"²³ which states that "policy makers should be mindful of cumulative effects, which may only become substantial when considered together." DEFRA gives examples of what constitutes a policy for the purposes of the paper and these include "national policy statements, strategies and frameworks". Both the overall A303 programme and RIS 2 would clearly qualify on this basis, as would the NPSNN. Although the paper is not intended to be applied to decisions on individual projects, the existence of significant negative cumulative effects undermines the validity of the broader programmes of which A303 Stonehenge is part. Its place within these broader programmes is a key element of the alleged justification for the project.
- 6.7 In its response to the Secretary of State, NH argues (paragraph 1.2.15) that the carbon emissions calculations that are derived from the traffic model are inherently cumulative because the model includes other committed road schemes and land use development. This would be partially true if it was assessing the difference between the Do Something (with A303 Stonehenge) scenario and a Do Nothing scenario where there were no other road schemes. However, the assessment is against a Do Minimum where other projects which NH expects to go ahead are included. So, the total volume of carbon derived from the model in the Do Something scenario is cumulative, but the NH assessment is not.
- 6.8 It would be a simple exercise to re-run the traffic model without any of the NH projects in the model area (including A303 Sparkford to Ilchester and A358 Taunton to Southfields as well as A303 Stonehenge) which are included in its Do Minimum and compare the carbon emissions with those from its Do Something scenario, which includes all of them. If NH believes that the local model enhancements that it has

²² [The Carbon Budget Order 2021](#) - UK Statutory Instruments, 2021 No. 750

²³ [Draft environmental principles policy statement](#) – Defra, May 2022

undertaken for the other projects would materially affect the results, it could simply add together the carbon impacts of the projects to obtain an alternative estimate.

6.9 However, this assessment would ignore:

- (a) other schemes in the A303 programme, which have not yet reached the level of development that results in them being included in the Do Minimum; and
- (b) RIS 1 and 2 projects which are outside the modelled area.

6.10 In the case of the A303 projects, it would be straightforward to add them to the model to create a new Do Something, which includes the full A303 programme. As the alignment and junction arrangements for the remaining schemes may not have been defined precisely, it might be necessary to make assumptions consistent with the overall aim “to create a safe and reliable road where ‘mile-a-minute’ travel is the norm.”²⁴ This would involve some approximation but should give a reasonable estimate of the overall carbon impact. This would be much better than ignoring the impact entirely.

6.11 The projects included in RIS 2 would have been developed to a reasonably advanced stage in order to warrant their inclusion in the programme. As we are now approaching the mid-point of the programme (which runs from April 2020 to March 2025), they will now have been developed further. Accordingly estimates of the carbon impacts of most, if not all, of them should exist. It would be a simple matter to add these together to obtain an overall assessment of the carbon impacts of the RIS 2 schemes and those from RIS 1 that have not yet been completed. NH is currently considering additional projects for potential inclusion in RIS 3, which is due to start in April 2025. The impact on carbon emissions should be a key consideration in deciding which projects to bring forward and initial assessments of this should have been made.

6.12 In summary, it would be a straightforward exercise for NH to provide an assessment of the carbon emission impacts of:

1. The A303 Stonehenge project in isolation;
2. Road projects across the South West region as a whole, which NH expects to go ahead as part of RIS 2;
3. The A303 programme as a whole, including projects not in RIS 2; and
4. The whole RIS 1 and RIS 2 programmes.

²⁴ [Improving journeys to the South West: The case for the A303/A358 corridor](#) – Highways England, February 2018

- 6.13 An additional test adding the likely impacts of potential RIS 3 projects nationally should also be undertaken.
- 6.14 These assessments should then be compared with both the overall national 6th carbon budget and the sectoral target level of emissions recommended by the Climate Change Committee. Additionally tests 1 to 3 should be compared with regional budgets derived from BEIS statistics and/ or from the Tyndall Centre’s carbon budget calculator for a combination of local authorities across the South West (as discussed in Section 5 above). The area covered in detail by the traffic model would provide a logical geographical scope for the regional assessment. In reality, NH has only provided an assessment of the A303 Stonehenge project relative to the overall national carbon budget, which has limited value as noted previously in paragraph 4.20. The Stonehenge Alliance considers that it is essential to have all the above assessments produced by National Highways, with interested parties given a chance to scrutinise any findings, before the Secretary of State can give proper consideration to carbon emissions as part of the re-determination process.

7. Competent expert

- 7.1 From NH’s submissions to the A428 Black Cat to Caxton Gibbet Examination²⁵ the competent expert on greenhouse gas emissions is listed as Ian Davies. The top three and most recent road schemes he has been involved with preparing emissions calculations are:
1. A428 Black Cat to Caxton Gibbet
 2. A38 Derby Junctions
 3. A303 Amesbury to Berwick Down (Stonehenge)
- 7.2 In all three he is described as the climate lead working for National Highways.
- 7.3 Yet all three schemes have been subject to contested emissions data and currently two of these schemes (A303 and A38) are the subject of further consultation by the Secretary of State who is seeking further information on the carbon emissions for these schemes. That suggests that the provision of climate data for these schemes has not been as thorough as it should have been and that despite National Highways’ assertions to the contrary, its submissions may not have conformed to Environmental Impact Assessment regulations or to IEMA guidelines as we set out above.

²⁵ [Appendix B, A428 Black Cat to Caxton Gibbet improvements TR011144 Volume 9 9.113 Cumulative effects of Greenhouse Gas emissions from the Proposed Development](#) – National Highways, January 2022

- 7.4 The third scheme, the A428 is currently awaiting decision, with the Examining Authority having just submitted its report to the Secretary of State. However, the information on carbon emissions was equally deficient.
- 7.5 It is notable that many of NH's claims are based upon it meeting its own guidance, not that produced independently or meeting the official guidance that sits alongside the EIA regulations. This is pertinent to the issues of significance and contextualising carbon emissions with sectoral and local budgets and targets.
- 7.6 Therefore there must be doubt as to the competency and thoroughness of the assessments that have been carried out.