

Temple Quay House  
2 The Square  
Temple Quay  
Bristol  
BS1 6PN

By email only: [A38DerbyJunctions@planninginspectorate.gov.uk](mailto:A38DerbyJunctions@planninginspectorate.gov.uk)

Our ref: LJH/BAI2/2  
Email: [REDACTED]

26 October 2021

Dear A38 Derby Junctions Team

**Re A38 Derby Junctions**

**Re-Determination of the application by Highways England for an order granting development consent for the A38 Derby Junctions**

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WRITTEN REPRESENTATIONS  
ON BEHALF OF MAIR BAIN

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**Introduction**

1. These representations on behalf of Mair Bain, who is also a member of the Derby Climate Coalition (“**DCC**”), respond to the Secretary of State’s (“**SoS**”) Statement of Matters, dated 2 August 2021 (“**SoM**”) and the Applicant’s Response to the SoM, dated 31<sup>st</sup> August 2021 (“**the Response**”). For ease of reference we refer to the numbered chapters in the Response and follow a similar structure.
2. Along with these representations, Ms Bain has also submitted the expert report of Dr Andrew Boswell. Dr Boswell is an expert independent scientist who works at the consultancy Climate Emergency Policy and Planning (“**CEPP**”).<sup>1</sup> Dr

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<sup>1</sup> Further academic and professional qualifications of Dr Boswell are provided within his report.

Boswell has scrutinised the Applicant’s assessment of climate impacts from the scheme and has found a number of fundamental failings in the Applicant’s approach, in relation to both the assessment of the scheme’s individual and cumulative emission impacts. Dr Boswell has also highlighted multiple (and significant) issues in relation to which further clarification and/or information is needed from the Applicant to enable any meaningful review of the Applicant’s data by the SoS and interested parties.

3. Some, but not all, of the points raised in Dr Boswell’s report are summarised in the representations that are made below. However, the SoS will, of course, need to consider this report in its entirety and we ask that it is considered in full alongside these representations. Where we refer to Dr Boswell’s report, we do so in the format “Boswell Report [x]” where “x” is a paragraph number (or alternatively we cite to a section number).

### **Further Environmental Information Has Been Provided**

4. The SoS will be aware of the background to the recent SoM. On 8 January 2021, the SoS decided to make, with modifications, the A38 Derby Junctions Development Consent Order 2021. However, that decision was subject to a judicial review challenge (brought by Mair Bain herself) on a number of grounds, which primarily related to how the SoS had considered and/or reasoned his conclusions on environmental impacts, in particular those relating to climate change and air quality.
5. Through a consent order, dated 8 July 2021, the SoS conceded that:

*...he failed to provide a reasoned conclusion as required by Regulation 21 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 on the significant effects of the proposed development on the environment, taking into account his examination of the environmental information, and/or failed to include a reasoned conclusion in his decision notice when making the A38 Derby Junctions Development Consent Order 2021.*

6. In other words, the SoS concession related to his non-compliance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (“**EIA Regs**”) procedure – more specifically, the lack of reasoning he gave in relation to his assessment of environmental impacts (and information) relating to the “Scheme” i.e. the proposed grade separation of three junctions and road widening of the A38 in Derby.
7. In that background context, it is imperative that the SoS ensures that there is no further breaches of the EIA Regs procedure that may pose a risk of future legal challenge(s).
8. Through the SoM, the SoS has asked for further representations on a number of matters, including a number of matters that specifically relate to the Scheme’s environmental effects (see in particular bullet points 1-3 in para 2 of

the SoM). One of the matters consulted on is: *“the adequacy of the environmental information produced in support of the application for the Development and whether further or updated environmental information is now necessary given the length of time since the examination closed”*.

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

10. “Further information” is defined in reg 3 as meaning:

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

11. Reg 20(1) and (3) essentially requires that – where further information is considered necessary (under Reg 20(2)) - the applicant must provide that “further information” and, subsequently, there must be a new public notification and consultation process, which allows interested parties (not limited to those interested parties who have already been involved in the examination process) to consider and comment on the environmental statement and “further information”.

12. Whilst Reg 20 refers to the “Examining authority”, we understand it to apply equally to the SoS, should the SoS intend to make this re-consideration decision without appointing/re-appointing an Examining panel. The SoS himself recognises this in the SoM, stating (p. 3) that if he *“decides that any of the information which the Applicant provides falls within the definition of ‘further information’ as set out in rule 3 of the EIA Regulations, the Applicant will be required to follow the procedure for publicising this information as set out in rule 20 of the EIA Regulations”*.

13. We consider that the information provided in the Applicant’s Response clearly does fall within the definition of “further information” and ask that the SoS therefore determine that the reg 20 process needs to be followed in relation to it.

14. In particular, we highlight the following:

14.1 The Response itself notes that the information it provides is *“additional information for the purposes of the EIA Regulations and is provided in*

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<sup>2</sup> The requirements of regulation 14(2) relate to the requirements as to what an environmental statement must include (at a minimum).

*response to the Secretary of State's request to assist him in discharging his duty under regulation 21 of the EIA Regulations to reach a reasoned conclusion which is up to date on the significant effects of the Scheme on the environment" (Response at 3.2.25).*

14.2 Clearly, in substance, the information provided in the Response is directly relevant to the SoS's consideration of the significant effects of the Scheme on the environment, i.e. it includes information that was necessary to include in an environmental statement, or updated environmental statement, in order to satisfy the requirements of reg 14(2). This is particularly obvious in a context where the previously-made DCO was quashed on grounds that the SoS had failed to provide a reasoned conclusion in line with the EIA Regs.

15. Indeed, should the SoS determine that the Response was not "further information", there is a real risk that any such determination would be irrational (i.e. unlawful).

### **Further Environmental Information Needs To Be Provided**

16. Notwithstanding what has been said above (i.e. that "further information" has already been provided by the Applicant), we also consider (on the basis of Dr Boswell's expert report) that there is significant "further information" that still needs to be, but has not yet been, provided by the Applicant. Unless and until this information is provided, it is impossible for the SoS and interested parties to properly scrutinise and review the environmental information that *has* been provided by the Applicant and the Environmental Statement ("ES") is inadequate.

17. In particular, Dr Boswell highlights the following missing information:

17.1 Explanation and/or information to explain the inconsistencies in the key data on emissions provided both within the Applicant's ES and between the ES data and the data now provided in the Applicant's Response **[Boswell Report [40]]**. In particular, Dr Boswell notes that:

- (i) The 1-year differential data in the ES (Table 14-15) is much lower than the other data **[Boswell Report [44]]**.
- (ii) The carbon budget figures in the Response do not agree with those provided in the ES (Table 14-16) (and in relation to the fifth carbon budget, the only difference could be in the quantum of lighting and maintenance emissions which is too small to explain the difference shown) **[Boswell Report [44]]**.
- (iii) The Appraisal Summary Table for the Scheme provides an entirely different figure for predicted operational emission in the fourth carbon budget period (again, which cannot be explained by

differences in lighting and maintenance operation emissions) **[Boswell Report [49]-[50]]**.

Dr Boswell suggests that this could be due to modifications to the Applicant's modelling between the ES and the Response but if any further modelling or assessments have been done they need to be (but have not been) made public so that they can be scrutinised **[Boswell Report [45]]**. Dr Boswell helpfully sets out in his report the further information that is needed to properly understand the Applicant's figures (and the differences between them) **[Boswell Report [46]]**.

- 17.2 The Applicant has not provided sufficient explanation on the study areas that have been used to calculate road-user emissions data. Dr Boswell explains in full in his report how he has sought to understand the various study areas used by the Applicant (see in particular **Boswell Report, Section 9.1, [176] et seq**). However, key information is missing, for example Dr Boswell has been unable to find the map corresponding to the "whole traffic model study area" referred to in Chapter 14 of the ES **[Boswell Report [181] [189]-[190]]**.
18. This missing information is key and it needs to be provided (not least to make sense of the information that *has* been provided by the Applicant). Were it to be provided, it would constitute "further information" and accordingly should be subject to the Reg 20 procedure (along with the further information that has already been submitted in the Response).
19. Dr Boswell also explains how the Applicant has failed to carry out any assessment of cumulative emissions associated with the Scheme. That is a fundamental failing of the Applicant's environmental assessment and is dealt with in much greater detail below, however in relation to this key point Dr Boswell explains what the missing information is and what models the Applicant should have run (but has not run) in order to derive that information **[Boswell Report, section 5.8]** (see in particular **Boswell Report [108] [137]**). Again, if this type of information were to be provided it would clearly constitute "further information" too.
20. It is, of course, important that the public is properly involved in the EIA process, not just to ensure compliance with the EIA Regs but also to ensure compliance with the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters 1998 (in particular Article 6 on public participation in decisions on specific activities, subparagraph (6) which requires public access to relevant information about a proposed project, including at least a "*description of the significant effects of the proposed activity on the environment*").
21. In terms of the EIA process, it must be remembered that this is designed to ensure a process by which the public is given an opportunity to express their opinion on environmental matters (see Berkeley v SSE [2001] 2 AC 603

(section 8 of Lord Hoffmann's speech) and Commission of the European Communities v Federal Republic of Germany (Case C-431/92) at [35]). The public can only give a sensible opinion on environmental matters if they have access to the background data on projected environmental effects.

### **Carbon Impacts of the Scheme (SoM para 2, bullet point 1)**

#### **Background**

22. The SoS asked for further representations on the following:

*the carbon impact of the development; the implications, if any, of the development in relation to the Paris Agreement and the UK's nationally-determined contribution under the Paris Agreement, the 2050 net zero target in the Climate Change Act 2008, and carbon budgets set under the 2008 Act (including the sixth carbon budget as set out in the Carbon Budget Order 2021); and, whether the increase in carbon emissions resulting from the development is so significant that it would have a material impact on the ability of the Government to meet its carbon reduction targets;*

23. The Applicant seeks to address this in section 2 of its Response.

24. Again, that this must be seen in the context of the SoS's, and Examining Authority's ("ExA"), previous consideration of the Scheme's expected carbon impacts. The ExA concluded in its Recommendation Report ("**ExA Report**") that it had not been provided with enough information (by the Applicant) to determine *inter alia* either of the following [**ExA Report at 4.15.126**]:

- *"whether the Proposed Development would lead to the UK being in breach of the Paris Agreement 2015. Whilst there was no evidence that there would be a breach (as per s104(4) of the PA2008) we are unable to confirm there would not be a breach on the evidence submitted"*
- *"whether the Proposed Development would affect the ability of the Government to meet the target of the revised net zero carbon by 2050 that was set (in July 2019) after the application was submitted."*

25. The ExA specifically noted that the Applicant's assessment of greenhouse gas ("**GHG**") emissions in Chapter 14 of its ES was set against the old 80% reduction target, and not the updated Net Zero target in section 1 of the Climate Change Act 2008 [**ExA Report at 4.15.21**] and that the ExA was unable to test whether the Scheme would affect the Government's ability to meet the Net Zero target (as per paragraph 5.16 of the NPSNN) "*as the relevant interim carbon budgets have not been published for the operational year assessment*" [**ExA Report at 4.15.115**]. The ExA therefore deferred consideration of this to the SoS.<sup>3</sup>

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<sup>3</sup> It should also be noted that - to the extent the ExA did reach any conclusion on the GHG emission impacts of the Scheme - these were expressly limited to consideration of the Scheme's individual impact (i.e. not cumulative impacts) and only in relation to whether the Scheme would have a material impact on the ability of the government to meet the carbon reduction targets that were in place at the time of the Applicant's assessment (see ExA Report at 4.15.114). The ExA did not reach any more generalised

26. The substance of the SoS's consideration of these issues formed a separate ground in the judicial review that was granted permission by the High Court to proceed to a substantive hearing (albeit it was not a ground that the SoS conceded).
27. In light of this background context, and the extent to which carbon impacts of the Scheme was a hotly contested issue at the examination, it is surprising (to say the least) that the Applicant has attempted to address the carbon impacts of the Scheme in short submissions spanning only 4 pages.

### **Summary on carbon impacts**

28. In summary, Mair Bain does not agree with the Applicant's conclusion that the Scheme's GHG emissions would not have a material effect on the Government's ability to comply with the carbon budgets [**Response at 2.2.16**]. On the basis of the current information (and without prejudice to Ms Bain's position that there are significant gaps and inconsistencies in that information, as has been explained above), not only will the Scheme's GHG emissions (when properly assessed) have a material effect on the Government's ability to comply with these budgets - which establish part of the planned trajectory (only up to 2039) for achieving Net Zero by 2050 - but they will also materially impact on whether the Government can achieve the Net Zero target itself. Moreover, as the figures in Dr Boswell's report clearly demonstrate, when considered against relevant sub-regional carbon budgets, the Scheme's GHG emissions can only be described as having a serious/significant/major impact on the ability for Government (including at the local level) to comply with these.

### **Assessing carbon impacts**

29. In terms of measuring the carbon impact of the Scheme, DCC accepts that one way to measure (or contextualise) this is to compare the GHG emissions associated with the Scheme against relevant carbon targets, including budgets.
30. However, the SoS will need to consider two key questions (or variables) when considering, and carrying out, this type of assessment:
- (1) How will the Scheme's emissions be quantified? Eg. should both the Scheme's construction and operational emissions be considered, should the Scheme be considered in isolation or in the context of other cumulative developments etc.

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conclusion as to the Scheme's individual impact on the ability of the Government meeting carbon reduction targets more generally (cf. what appears to have been incorrectly implied in the SoS's 8 January decision at paragraph 71 that "*The Secretary of State agrees with the ExA and is satisfied that the greenhouse gas emissions impact of the Proposed Development on its own would be unlikely to have a material impact on the Government meeting the carbon reduction targets (ER 4.15.114).*" (emphasis added)).

(2) Against which “target” or “budget” should the Scheme’s emissions be measured?

**(i) Quantifying the Scheme’s emissions**

31. In terms of assessing the expected level of GHG emission from the Scheme, firstly (and as mentioned above) Dr Boswell has highlighted how it appears that the Applicant’s figures in the Response have changed, quite significantly, to those set out in the ES **[Boswell Report, section 3.1]**. The Applicant has not provided the background data, or its “workings”, to explain these discrepancies; nor, can interested parties properly scrutinise how the Applicant has estimated the Scheme’s GHG emissions without this background data.
32. Ms Bain therefore cannot accept the new GHG emissions figures provided by the Applicant in their Response (and nor can the SoS without the missing information noted above).
33. However, and without prejudice to that point, even assuming the Applicant’s Response figures were to be correct, the Applicant has then used only the “differential” project-only GHG emissions figures (i.e. the “solus” differential emissions) to carry out their comparative assessment against the 3<sup>rd</sup>-6<sup>th</sup> national carbon budgets. In other words, the Applicant has used the additional GHG emissions that the Scheme is (in isolation) expected to emit as the emissions figure in their comparative assessment. This is evident from the Applicant’s Table 2-2 and supporting text in the Response. In Table 2-2 it is clear that the % of carbon budget figures are worked out by reference to the proportion of the “*Net project GHG emissions (tCO<sub>2</sub>e) over relevant carbon budgets*” figures that fall within the particular carbon budget at issue (eg. for the 6<sup>th</sup> carbon budget the figure is 22,343tCO<sub>2</sub>e). The “*Net project GHG emissions*” figure is a reference to the emissions associated only with the Scheme in isolation (eg. for operation the figure is 51,315tCO<sub>2</sub>e).
34. For the reasons Dr Boswell gives, it is not appropriate to assess the Scheme’s GHG emissions impacts by considering only the solus differential emissions. Instead, the “absolute” or total emissions figure should be used. This is appropriate because the UK’s carbon budgets are expressed in terms of absolute emissions, so comparing the Scheme’s absolute emissions is the appropriate like-for-like comparison (and avoids misconstruing the data so as to indicate a disproportionately low emissions effect) (see **Boswell Report section 1.5, [169], [196], [218], [222]**; see also **Boswell Report, Table 10 and Table 8 and supporting commentary, in particular [218] and [223]** which demonstrates the differences which using the absolute vs solus differential emissions results in).
35. So, by reference to the Applicant’s Table 2-2, the Applicant should have considered the “*total GHG emissions*” figures represented in the second column of the table (eg. for operation emission, this is 101,240,659) albeit as proportioned between the relevant carbon budget periods. As we understand



it, that total figure reflects not only the Scheme's emissions, but the baseline emissions too (which, as explained below, include a consideration of cumulative emissions).<sup>4</sup>

36. That is the correct figure to use for the comparative assessment, not least as it properly factors in cumulative emissions which the ExA quite clearly (and correctly) concluded *should* be factored into the assessment against UK carbon budgets (see **ExA Report at 4.15.116-4.15.118**). The Applicant's failure to assess cumulative emissions is considered in much more detail in relation to the SoM para 2, bullet point 2, but the ExA's (correct) conclusion here (that the climate impacts of the Scheme's cumulative emissions must be assessed) clearly shows that using the absolute emissions is the most appropriate way to assessing the real significance of the Scheme's carbon impacts.
37. This is not a point without substance – the differences between using the solus differential or absolute emission figures are clearly shown in Table 10 of Dr Boswell's report and are considerable (see also **Table 8 of Dr Boswell's report**). As Dr Boswell notes, when the absolute emissions figure is used against the 5th and 6th carbon budgets, instead of the differential (solus) figure that the Applicant has used, the variation between the results was at a factor of 2000 [**Boswell Report [223]**].
38. At the very least, even if the Applicant decides to use the solus differential figure, the limitations of this (and what it means for assessing the Scheme's emissions impacts) needs to then be fully explained to the SoS (which the Applicant has not done).

**(ii) Assessing relevant “carbon reduction targets”**

39. In terms of which benchmark target to use, it is worth quoting the relevant part of the NPSNN, which states at 5.16-5.18:

**Carbon emissions**

**Introduction**

*5.16 The Government has a legally binding framework to cut greenhouse gas emissions by at least 80% by 2050. As stated above, the impact of road development on aggregate levels of emissions is likely to be very small. Emission reductions will be delivered through a system of five year carbon budgets that set a trajectory to 2050.<sup>5</sup> Carbon budgets and plans will include policies to reduce transport emissions, taking into account the impact of the Government's overall programme of new infrastructure as part of that.*

**Applicant's assessment**

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<sup>4</sup> For the avoidance of doubt, whilst this column is stated to show a “Do Something – Do Minimum Scenario”, Dr Boswell has explained in his report why he concludes that this labelling must be a mistake, as the figures shown reflect total absolute emission, rather than a DS-DM Scenario [XX TO ADD REF TO BOSWELL REPORT].

<sup>5</sup> The Carbon Plan – reducing greenhouse gas emissions (December 2011) and successor documents.

5.17 Carbon impacts will be considered as part of the appraisal of scheme options (in the business case),<sup>6</sup> prior to the submission of an application for DCO. 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. 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. However, for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets.

**Decision making**

5.18 The Government has an overarching national carbon reduction strategy (as set out in the Carbon Plan 2011) which is a credible plan for meeting carbon budgets. It includes a range of non-planning policies which will, subject to the occurrence of the very unlikely event described above, ensure that any carbon increases from road development do not compromise its overall carbon reduction commitments. The Government is legally required to meet this plan. Therefore, any increase in carbon emissions is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the proposed scheme are so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets.

(emphasis added)

40. A few points need to be noted at the outset when considering this part of the NPSNN:

- (i) NPSNN was adopted in 2014 at a time when the relevant Climate Change Act 2008 target was for an 80% reduction in GHG emissions by 2050 compared to 1990 levels. At the time, the relevant “*overarching carbon reduction strategy*” was the Carbon Plan 2011 (as referred to in the text). However, nobody alleges that current schemes – such as the A38 Derby Junctions – should continue to be assessed by reference to these (now) outdated emission reduction targets. And, of course, the fact that the Applicant's ES (Chapter 14) did use the 80% reduction target (meaning that it was also out of date at the time of the ExA's Recommendation Report) was a key reason why the ExA left the points quoted above to be determined by the SoS.
- (ii) Consequently, it appears to be accepted that the application of these NPSNN paragraphs to current DCO schemes requires an assessment of the scheme's carbon impacts against up-to-date carbon reduction targets, whatever these may be at the time of the decision (and indeed the footnote to paragraph 5.16 itself recognises this by referring to “*successor documents*” to the (now outdated) Carbon Plan 2011).

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<sup>6</sup> See paragraphs 4.5 to 4.7

- (iii) Furthermore, the reference in the NPSNN (para 5.18) is to “*carbon reduction targets*”. It is not limited to considering carbon budgets, albeit para 5.17 correctly recognises that carbon budget allocations can be an appropriate reference point for assessing carbon impacts (essentially because carbon budgets are used to ensure the right trajectory is set to achieve the relevant carbon reduction targets). Where, however, there is no equivalent carbon budget set to achieve a “*carbon reduction target*” (or where carbon budgets that have been set are no longer considered to be effective in reaching the target), it may be necessary to assess carbon impacts by reference to their effects on meeting the target itself.
- (iv) Finally, the term “*material impact*” is not defined in the NPSNN. It must, therefore, be a matter of (rational) judgment as to what having a “*material impact on the ability of Government to meet its carbon reduction targets*” means.

41. In terms of that last point, we submit, on behalf of Ms Bain, that “*material*” means anything that is non-negligible. I.e. if a project’s carbon impacts will have a non-negligible impact on the ability of Government to meet its carbon reduction targets, then this can – according to the NPSNN – be a reason to refuse development consent.

42. Moreover, in terms of what it means to “*impact on the ability of Government to meet its carbon reduction targets*”, if a project’s carbon impacts will make it considerably harder for the Government to meet its carbon reduction targets – perhaps because in order to still meet the targets the Government will have to significantly offset (via carbon sequestration and offsetting measures) the additional carbon produced by the Scheme elsewhere in the economy (or indeed will require further reductions in emissions output elsewhere in the economy) (with all the cost implications associated with such offsetting measures or further reductions) – then this will surely qualify as a “*material impact*” of the Government’s ability to meet the target. This must be so even notwithstanding the fact that the Government may still be able to achieve its carbon reduction targets (but only through such greater offsetting/carbon reductions elsewhere).

43. In other words, where a project’s carbon impacts will make it considerably harder (but not impossible) for the Government to meet its carbon reduction targets, then it will have had a “*material impact*”.

### **3<sup>rd</sup> to 6<sup>th</sup> Carbon Budgets**

44. The Applicant’s Response concludes that the Scheme’s individual contribution (i.e. its solus differential emission contribution) to each of the 3<sup>rd</sup> – 6<sup>th</sup> carbon budgets – which is at a maximum figure of 0.0043% (of the 6<sup>th</sup> carbon budget) - will not have a material effect on the Government’s ability to comply with the “carbon budgets” (**Response at 2.2.16**).

45. Dr Boswell explains why, when the absolute (i.e. total) emissions figures are considered against these budgets, the percentage figures are much greater (with an equivalent maximum figure of 4.471% (of the 6<sup>th</sup> carbon budget)) and, in his expert view, this equates to a “*very significant*” share of the total UK economy emissions [**Boswell Report, Table 10 and [22]**]. Dr Boswell concludes from this (as well as through other assessments) that the Scheme in the whole transport model study area will have a “significant impact on the ability to meet UK carbon emission budgets and targets” [**Boswell Report [221]**].
46. Moreover, the contribution of the Scheme’s GHGs to the currently set carbon budgets must be seen, and assessed, in its proper context. Currently, that context consists of the following:
- (i) A recognised Climate Emergency (recognised at both national and local levels).<sup>7</sup>
  - (ii) A recent recognition by the international scientific community – through the Intergovernmental Panel on Climate Change’s (“**IPCC**”) most recent report “Climate Change 2021 – The Physical Science Basis” (August 2021)<sup>8</sup> (described by the UN Secretary General as “code red for humanity”<sup>9</sup>) – of the real urgency of the situation on climate change and the imminent risk of reaching global temperatures of 1.5°C in the near future. According to this report, global warming of 1.5°C and 2°C will be exceeded during the 21<sup>st</sup> century unless “deep reductions” in CO<sub>2</sub> and other GHG emissions occur in the coming decades.<sup>10</sup>
  - (iii) Where current advice from the Committee on Climate Change (“**CCC**”) is clear that the UK is “not on track” to meet the 4<sup>th</sup> budget (2023-2027), the 5<sup>th</sup> budget (2028-2032) or the 6<sup>th</sup> budget (2033-2037).<sup>11</sup> In particular, the recently published 6th budget requires a step-change in carbon emissions reductions (78% reduction by 2035, compared to 1990 levels; contrasted with 51% for the 4<sup>th</sup> budget and 57% for the 5<sup>th</sup> budget). So any projected failure to meet the 4<sup>th</sup> and 5<sup>th</sup> budget needs to be seen in the context of an even more ambitious target now being set for the 6<sup>th</sup> budget.
  - (iv) The UK has within the last year committed to a new Nationally Determined Contribution (“**NDC**”) under the Paris Agreement of (at

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<sup>7</sup> The UK Parliament declared a climate emergency on 1 May 2019 (see here <https://www.parliament.uk/business/news/2019/may/mps-debate-the-environment-and-climate-change/>). Derby City Council has also declared a climate emergency on 22 May 2019 (see ExA Report at 4.15.52 and <https://www.derby.gov.uk/environment-and-planning/climate-change-energy-management/climate-change/derbys-climate-emergency/>).

<sup>8</sup> <https://www.ipcc.ch/report/ar6/wg1/>

<sup>9</sup> <https://www.un.org/press/en/2021/sgsm20847.doc.htm>

<sup>10</sup> See IPCC summary for policymakers document at “B-1” (p. 17) [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_SPM.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf)

<sup>11</sup> See <https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/>

least) a 68% reduction in (economy-wide) GHG emission by the end of 2030, compared to 1990 levels.<sup>12</sup> We note that the Applicant states that this NDC aligns with the 6<sup>th</sup> carbon budget (**see Response at 2.2.14**), however that must be seen in the above context where the CCC's current projections are clear: the UK is not on track to meet any of the 4<sup>th</sup> – 6<sup>th</sup> carbon budgets.<sup>13</sup>

- (v) Whether other, reputable, commentators are highlighting the huge gulf between currently-set climate targets and what is needed to stay below 1.5°C and 2°C (see **Dr Boswell's report at section 2.3** where he considers the Chatham House Report appended to his report).

47. Even if the UK were on track to meet these budgets (which it is not), it must also be noted that the CCC had previously recognised in its May 2019 report that the 4<sup>th</sup> and 5<sup>th</sup> budget were “likely to be too loose”. In its more recent report on the 6<sup>th</sup> budget (December 2020<sup>14</sup>) the CCC concluded that “[e]missions will have to fall more quickly than required by the existing carbon budgets (i.e. the fourth and fifth, covering 2023-27 and 2028-32)” (p. 15).

48. Within this (dire and emergency) context, we submit that even if the lower, differential solus, figure is used to consider the Scheme's GHG emissions against the third – sixth carbon budgets, the Scheme will still have a “material impact” on the Government's ability to meet its carbon budgets (see also, in this regard, **Dr Boswell's report at [33]**). We note that all of the Scheme's construction emission will occur within the 3<sup>rd</sup> and 4<sup>th</sup> carbon budgets (Dr Boswell highlights that construction emissions are therefore a significant part (72%) of the Scheme's differential solus emissions over the 3<sup>rd</sup> – 6<sup>th</sup> carbon budgets [**Boswell Report [123]**]).

49. Moreover, it will certainly have such an impact if the absolute (total) amount of the Scheme's GHG emissions are considered, as the Scheme-related emissions would then represent over 4% of a carbon budget that the UK is currently (even without this Scheme) expected to miss. Dr Boswell likewise concludes that “*the comparison to absolute carbon emissions shows that the share of the total UK economy emissions of the transport model study area is very significant, rising from 2.4% to 4.5% between the 5<sup>th</sup> carbon budget and 6<sup>th</sup> carbon budget*” [**Boswell Report [220]**].

#### NPSNN out of date

50. Furthermore, it should be noted that paragraph 5.17 of the NPSNN, which states “*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.*” was written long before a Climate Emergency was declared or any “code red” signal was given to the international community. It was also written long before it had

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<sup>12</sup> <https://www.gov.uk/government/news/uk-sets-ambitious-new-climate-target-ahead-of-un-summit>

<sup>13</sup> <https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/>

<sup>14</sup> <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>

become evident that the UK would no longer be projected to stay on track to meeting its carbon budgets. It was, in fact, adopted before the Paris Agreement 2015 was signed. It is, therefore, clearly out of date in its statements on assessing climate impacts.

51. Consequently, it is unsurprising that the Government has now agreed to review the NPSNN policy under section 6 of the Planning Act 2008.<sup>15</sup> The Government has decided not to suspend the NPSNN whilst the review is ongoing so the NPSNN remains government policy (a decision which has now been legally challenged<sup>16</sup>). However, clearly in view of all of the above the weight (if any) to be afforded to its policy on assessing carbon impacts must be significantly reduced. The weight to be given to these policies (and any compliance with them for this Scheme, should that be found) is clearly an obviously material consideration to the SoS's determination.
52. In particular, the Court of Appeal has recently confirmed in its decision in the R (oao ClientEarth) v SSBEIS [2021] EWCA Civ 43, that it is entirely permissible, as a matter of planning judgment, for the SoS to reduce the weight to be given to any compliance (of a project) with NPS policy when considering the "straightforward balance[ing]" exercise (between a project's "adverse impact" and its "benefits") that he – as decision-maker - is legally required to carry out under section 104(7) of the Planning Act 2008 (see ClientEarth at [104] and [109]).
53. Overall, therefore, *if* the SoS were to agree with the Applicant's conclusion (contrary to the submissions we have made above) that the Scheme's emissions consists of a maximum of 0.0043% across all relevant carbon budget periods and therefore will not have a material effect on the Government's ability to comply with the carbon budgets, and were the SoS to then go on to conclude that the Scheme was compliant with NPSNN 5.17-5.18, we submit that very little (if any) weight can be given to any such compliance with the NPSNN due to the fact the NPSNN is clearly out of date.
54. For the avoidance of doubt, our primary submission (as explained above, and further below) is that – when properly assessed – the Scheme's emission impacts will have a material impact on the ability of Government to meet its carbon reduction targets, such that the carbon emissions are a reason to refuse consent (and the Scheme is not compliant with NPSNN paragraph 5.18). We only make the alternative submission – that the NPSNN is out of date and therefore very little weight can be given to any compliance with it – in the event that the SoS were to disagree with us on our primary submission.

#### ***Beyond the 6<sup>th</sup> carbon budget – 2038 onwards***

55. When the ExA made its recommendations, the 6<sup>th</sup> carbon budget had not yet been set. The ExA concluded that it was unable to test directly whether the

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<sup>15</sup> See Written Ministerial Statement by the Secretary of State for Transport on 22 July 2021 <https://www.gov.uk/government/speeches/review-of-national-policy-statement-for-national-networks>

<sup>16</sup> The Transport Action Network has filed a judicial review of the decision not to suspend the NPSNN.

Scheme would affect the ability of the Government to meet the Net Zero target because “*the relevant interim carbon budgets have not been published for the operational year assessment*” (ExA Report at 4.15.115).

56. The Applicant’s ES makes its operational emissions forecasts by reference to both (i) the opening year in 2024 and (ii) the design year in 2039 (see eg. **Table 14.15 in Chapter 14 of the ES**). Of course, the Scheme is not expected to stop in 2039 and operation of the Scheme is assessed over a 60 year period (see at **14.10.14 of the ES**). Therefore, if the Scheme were to open in 2024, it should be assumed to continue in operation until (at least) 2084.
57. In light of all of this, the Applicant needs to assess (and the SoS will need to consider) the Scheme’s GHG emission impacts on all relevant carbon reduction targets applying to the Scheme’s years of operation. Whilst the sixth carbon budget has now been published, this only covers the years up to 2037. It does not even cover the “design year” of 2039. The ExA’s conclusion therefore remains and the Applicant has not provided any assessment of the Scheme’s carbon impacts beyond 2037 (as it only considers the published carbon budgets as comparators).
58. For purposes of assessing the Scheme’s operational carbon impacts beyond 2037 (and indeed also for fully assessing the Scheme’s operational impacts before 2037), the SoS must consider the Scheme’s emissions against the Net Zero target and the recently published sector-specific Net Zero Strategy targets, as applicable national carbon reduction targets. For the reasons Dr Boswell gives in his report, the Scheme’s emissions also need to be assessed against relevant local and regional budgets/targets (as explained further below).

### ***Net Zero Target***

59. The Net Zero Target set in section 1 of the Climate Change Act 2008 is clearly one of the Government’s “*carbon reduction targets*” (as referred to in **NPSNN para 5.18**) and was treated as such by both the ExA in its Recommendation Report and the SoS in his previous decision on the Scheme.
60. The Net Zero Target represented a step-change in the UK’s efforts to address climate change. It requires that all additional emissions, as of 2050, be offset, or otherwise removed, so that there are no “net” emissions in the UK carbon account when compared to 1990 levels. This means that *any* additional emissions projected in 2050 will require commensurate offsetting to be introduced elsewhere. As Holgate J recently stated in his decision in R (oao Transport Action Network Ltd) v SST [2021] EWHC 2095 (Admin) at [44]:

*Article 4.1 of the Paris Agreement acknowledges that some human activities will always generate GHG. Other actions can remove GHG from the atmosphere, such as the planting of trees and carbon capture and storage. The long-term goal of the Agreement is a balance between anthropogenic sources of GHG emissions and the removal of*

*such gases by "sinks". That in effect is what is meant by net zero. Article 4.1 seeks to achieve net zero globally during the second half of the twenty first century. The UK has committed itself to achieving that target in this country by 2050. (emphasis added)*

61. Since there needs to be an overall “balance” between the sources and removals of GHG emissions, in truth, any (non-negligible) expected additional emissions up to and beyond 2050 will have a “material impact” on the ability of the Government to meet the Net Zero Target because the entirety of those new emissions will need to be otherwise offset and/or balanced out by carbon sequestration and/or mitigation. That is not to say that they will necessarily preclude the target being met (i.e. that they are “incompatible” with it), but rather that they will make it that much harder for the Government to reach it. And, by making it that much harder they will have a “material impact” on the Government’s ability to meet the target.
62. Furthermore, this Scheme has no clear end-date, but for the reasons given above it must be assumed to continue until at least 2084. It is certainly expected to still be in operation in the year 2050. Crucially, from the Scheme-related information before the SoS, there is no basis on which to know (with any certainty) how the proposed introduction of any future policy measures – such as the introduction of electric vehicles – will impact on the Scheme’s emissions. There can, of course, be no guarantee that proposed future policy measures (of this Government) will be implemented, or how any of this will affect Scheme-related emissions over such a lengthy period of operation. In the context of that uncertainty, and correctly applying the precautionary principle, the SoS can only assume that Scheme-related emissions will be continuing at 2050.
63. The SoS must therefore consider how these additional emissions will need to be offset and compensated for elsewhere in the economy in order to enable the Government to achieve its Net Zero target; and how all of this will make the target that much harder to meet.
64. Therefore, in light of all of this, the Scheme clearly will have a material impact on the ability of the Government to meet the Net Zero target. In fact, in light of how the Net Zero target works, requiring all emissions in 2050 to be balanced out, it would be irrational to find otherwise.

### **Net Zero Strategy Targets**

65. On 19 October 2021 the Government’s Net Zero Strategy “Build Back Greener” was published.<sup>17</sup> This sets out the Government’s policies and proposals for decarbonising all sectors of the UK economy to meet the Net Zero target by 2050. Dr Boswell provides further detail and commentary on this Strategy in his report in section 2.2. Due to the recent publication of this report, interested parties have not yet had the opportunity to fully scrutinise it.

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<sup>17</sup> <https://www.gov.uk/government/publications/net-zero-strategy>



66. The Strategy provides further context of the current Climate Emergency. Noting, in its “Climate Science Annex” that “[r]apid and deep cuts to emissions are essential to avoid the most dangerous impacts of climate change” (p. 363) and noting that the recent IPCC’s Sixth Assessment Report concludes that “[w]ithout immediate and drastic action, the impacts [of climate change] will be more severe and frequent” (p. 365).
67. In relation to the transport sector, the Strategy has set targets for GHG emission reductions. In summary, the Strategy expects that (see para 6, p. 154):
- (i) By 2050, total transport emissions, including international aviation and shipping, could need to drop by 76-86% compared to 2019 levels (i.e. down by 23-40MtCO<sub>2</sub>e).
  - (ii) In the interim (i.e. between now and 2050), the Government expects total transport emission to fall by:
    - (a) 22-33% by 2030
    - (b) 46-59% by 2035Again, this is against 2019 emission levels.
  - (iii) Residual emissions from domestic transport could need to fall by around 34-45% by 2030 and 65-76% by 2035 compared to 2019 levels.
68. These projections helpfully show the dramatic reductions in domestic transport emissions that will be required in less than 15 years. Part of the reason why that reduction needs to be so dramatic is because there has been comparatively little reduction in the domestic transport sector compared to other sectors over the past 30 years. The SoS should be (but has not been) informed by the Applicant on how the Scheme’s emissions impact on the Government’s ability to meet these recently set targets.
69. Dr Boswell has sought to provide an indicative assessment (on the basis of the limited data and information that has been provided by the Applicant to date) of how the absolute emissions of the Scheme compare (in terms of % increase or decrease) to the Net Zero Strategy targets **[Boswell Report, section 9.4]**. We note that Dr Boswell’s assessments here are based on a number of reasonable assumptions that he has had to make because the Applicant has not provided details (or maps) of the relevant study areas **[Boswell Report, section 9.1]**. In short, Dr Boswell’s assessment shows that in 2035, at a time when the Net Zero Strategy requires reductions in residual emissions from domestic transport of at least 65%, the absolute Scheme emissions result in a 13.3% increase.
70. That shows quite clearly that the Scheme is going to have a material impact on the Government’s ability to reach the Net Zero Strategy targets.

### **Paris Agreement 2015**

71. It should also be noted that the Paris Agreement 2015 does not simply require the achievement of Net Zero by 2050. Article 4 of the Paris Agreement reflects the urgency of the situation by stating:

*In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty. (emphasis added)*

72. Therefore, any assessment of emissions impacts for the Scheme (and the materiality of that) will need to be seen in this context, whereby rapid reductions in GHG emissions are needed globally in order to achieve a global balance between sources and removals by 2050. The Applicant, therefore, goes far too far when it alleges that (in light of the Applicant's view that the Scheme will not impact the UK achieving its carbon reduction targets) it "*can therefore be concluded that there are no implications of the development in relation to the Paris Agreement...*" (**Response at 2.2.15**, emphasis added).

### **Local and regional budgets**

73. Finally, but in no way less importantly, Dr Boswell has clearly explained in his report why in his expert view the Scheme's GHG emissions should be assessed against local and regional carbon budgets (as well as against national budgets) [**Boswell Report, section 7.1 and section 9.6**]. Dr Boswell emphasises that such an approach is in keeping with the established guidance on EIA assessments, but that it is also in keeping with general scientific practice (which seeks, where possible, a variety of measurements to assess the significance of an effect) [**Boswell Report, section 7.1**].
74. The NPSNN is not prescriptive as to what carbon budgets can be considered and it does not restrict the assessment of carbon impacts to a comparison with national carbon budgets only. For the reasons Dr Boswell gives, local and regional budgets need to be considered in the context of para 5.18 of NPSNN. This is particularly so in a context where elsewhere the NPSNN states that "*environmental*" adverse impacts "*should be considered at national, regional and local levels*" (**NPSNN para 4.4**).
75. The SoS is referred to the analysis in Dr Boswell's report in section 9.5 and 9.6 and in particular Dr Boswell's Table 8. This demonstrates quite starkly the materiality of the Scheme's impact on achieving local and regional carbon budgets. For example, when the total emissions of the Scheme are assessed against the relevant proportion of the Manchester Tyndall science-based carbon budget (for the equivalent study area) for all sectors, the Scheme's emissions consist of 432.29% of the sixth budget period (1190.58% if the

comparator is used but for only the transport sector). When using a proportioned part of the CCC's 6<sup>th</sup> budget (for all sectors) for the relevant study area, the Scheme's total emissions make up 78.07%.

76. Dr Boswell has concluded, in view of these significant figures and what they mean for the emission space left over (if any) in the carbon budgets for other sectors in the regional and local context, that the Scheme would have a “*significant*” impact on the ability of the Government to meet its carbon reduction targets **[Boswell Report [217] and [221]]**. Ms Bain agrees.

### **Conclusion on assessing carbon impacts**

77. One of the key points that Dr Boswell makes in his report is that there is a very wide sensitivity of carbon assessment and so depending on the variables used for an assessment of carbon impacts – both (i) how the emissions level is assessed and (ii) what budget/target the emissions is compared to – there can be dramatically different results **[Boswell Report, section 9.8]**. Dr Boswell shows in his report that the variation in results between the assessment methods vary by a factor of 514,217, or over 5 orders of magnitude **[Boswell Report [223]]**.
78. The single assessment that the Applicant has carried out – i.e. comparing the net additional emissions from the Scheme alone against the national carbon budget – presents only the result at the most extreme (lowest) end of this spectrum **[Boswell Report [224]]**.
79. The SoS needs to appreciate the full range of assessment values in order to properly assess whether the Scheme will have a material impact on the Government's ability to meet its carbon reduction targets.
80. Moreover, as has been explained above, the SoS needs to consider all relevant carbon reduction targets that apply to the Scheme's operation. This will require a consideration of the Net Zero target and the impact that the Scheme's non-negligible emissions contribution will have on achieving that target. The SoS can only sensibly conclude that a Scheme of this size and impact *will* have a material impact on the Government's ability to meet the Net Zero target (because it will make that target substantially harder to meet) even if the target can still technically be met (through compensatory action taken elsewhere).
81. The SoS must also consider any assessment of carbon impacts within the context of a declared Climate Emergency, particularly in which a considerable amount of the Scheme's expected emissions (including all its construction emissions) will take place within the next 10 years – a period which the scientific community now accepts will be crucial in addressing climate change.
82. Overall, the SoS cannot rely on the limited information provided by the Applicant in its Response to conclude that the Scheme will not materially impact on the Government's ability to achieve its carbon reduction targets. In light of

all of the above, and notwithstanding the gaps in the information provided by the Applicant, the Scheme clearly will (on the information currently available) have a material impact on the Government's ability to achieve its carbon reduction targets and this impact represents a clear reason for refusal.

### **Likely Significant Effects of the Scheme on Climate (SoM, para 2, bullet point 2)**

#### **Background**

83. The SoS asked for further representations on the following:  
*the direct, indirect and cumulative likely significant effects of the development on climate, including greenhouse gas emissions and climate change adaptation, in light of the requirements set out in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations') and in light of paragraphs 5.17 and 5.18 of the National Policy Statement for National Networks ('NNNPS');*
84. The Applicant seeks to address this in section 3 of its Response.
85. Assessment of cumulative GHG emission impacts was the third point that the ExA was unable to determine on the basis of the information before it. The ExA stated at 4.15.126 of the ExA Report that it had not been provided with enough information on:
- *consideration of the cumulative effects of carbon emissions from the Proposed Development with those from other developments on a consistent geographical scale, for example by assessing the cumulative RIS1 or RIS2 programmes (of which the Proposed Development is part) against the relevant UK carbon budget;*
86. This was in a context where the ExA had (correctly) concluded that it was necessary to assess such cumulative impacts, stating at 4.15.116-4.15.118:
- 4.15.116 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.*
- 4.15.117 The Applicant's approach of assessing emissions from the Proposed Development as a proportion of national budgets does not appear to conflict with current policy or guidance. The contribution of the Proposed Development may be relatively small at up to 0.01% but we are not convinced that the Applicant's approach sufficiently considers cumulative effects with other projects or programmes. In our view an appropriate assessment should, as is normal practice for the assessment of cumulative effects for other matters, adopt a reasonably consistent geographical scale. An example of this would be to consider the RIS1 or RIS2 programmes, of which the Proposed*

*Development is a part, against the UK carbon budgets. The Applicant suggested that such an exercise had been undertaken but was unable to provide any details of it. Based on the above, we are not able to reach a conclusion on cumulative climate change effects.*

*4.15.119 Therefore, the SoST will need to satisfy themselves regarding the cumulative effects of carbon emissions from the Proposed Development with those from other developments on a consistent geographical scale, for example by assessing the cumulative RIS1 or RIS2 programmes (of which the Proposed Development is part) against the UK carbon budget.*

87. In the judicial review challenge, the Defendant's failure to lawfully consider cumulative climate change impacts as required under the EIA Regs was a separate ground of challenge that was granted permission to proceed to a substantive hearing by the High Court. Whilst the SoS did not concede this point (ie that he failed to consider cumulative climate change impacts) through the consent order, it is notable that the point which the SoS did concede – i.e. that he failed to provide an up-to-date “reasoned conclusion” pursuant to reg 21 of the EIA Regs – was intrinsically related to his assessment of cumulative climate impacts. The conceded ground was that the SoS had failed to provide such a reasoned conclusion on the Scheme's cumulative climate impacts and/or how they may affect the relevant climate change targets.<sup>18</sup>

88. In light of all of that background, it is (again) surprising (to say the least) that the Applicant has, in reality, sought to address the cumulative GHG emission effects of the Scheme through one single paragraph in its Response (**Response at 3.2.5**) and no updated information.

89. That paragraph simply states as follows:

*The consideration of 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 paragraph 15.3.27 of the cumulative effects chapter of the Environmental Statement, and paragraph 4.3.8 of the Transport Assessment.*

90. As Dr Boswell has highlighted [**Boswell Report, section 4.1 [52]-[55]**], it must be recalled that the Applicant previously (publicly) stated at the examination, in response to the ExA's question: “Does the Applicant's assessment of this consider cumulative increases in carbon emissions of the proposed development with that of other highways developments and with other changes to carbon emissions in the UK?” the following:

*“It is not considered practical or possible to calculate these cumulative impacts in any meaningful way due to constraints on data availability and scale of emissions that would need to be calculated. With specific*

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<sup>18</sup> See the Claimant's statement of facts and grounds at paragraph 69.

*regard to the Scheme, the assessment included in the Environmental Statement [APP-052] would not be significant.*

*The Applicant considers the issue of cumulative emissions from this Scheme combined with other road schemes and proposed developments is a national policy issue, rather than a Scheme-specific issue.”*

91. Moreover, as Dr Boswell has reiterated, it is quite clear from the Applicant’s ES that it did not carry out an assessment of the expected cumulative GHG emission impacts **[Boswell Report 8], [59]-[60], [69]-71], [89]-[90], [225] and [244]]**. This was an environmental effect that had not been scoped out of the EIA **[Boswell Report, section 10.4]**. There can be no doubt that the Applicant had failed to assess cumulative GHG emissions in its ES (not least cumulative assessment is nowhere mentioned in **Chapter 14 of the ES** on “Climate”; nor is cumulative assessment of GHG emissions mentioned in **Chapter 15 of the ES** on “cumulative assessment”).

### **No Assessment by the Applicant of Cumulative Carbon Impacts**

92. Dr Boswell has explained, in considerable detail, in his report why this approach by the Applicant to assessing cumulative GHG emission impacts is flawed **[Boswell Report, section 5]**. These representations will not repeat the detail of his critique. However, the following must be emphasised: any suggestion by the Applicant that there has somehow “inherently” been a consideration of cumulative effects in the ES methodology is fundamentally flawed.
93. This is perhaps obvious from the fact that the ES methodology was already before the ExA (and SoS) when the Scheme was previously considered and, notwithstanding this, the ExA (correctly) concluded that it did not have the information it needed to assess cumulative impacts.
94. The Applicant’s Response at 3.2.5 refers to two paragraphs in the Applicant’s supporting documentation: paragraph 15.3.27 of the ES and paragraph 4.3.8 of the Transport Assessment. For the avoidance of doubt, these two paragraphs do nothing to fill the gap of a missing cumulative assessment of climate impacts.
95. Paragraph 15.3.27 states that:

*As the influence of other development projects already forms an inherent part of the traffic forecasts upon which the assessments of the Scheme’s effects within these topics have been based, by default cumulative effects are included and reported within the operational assessments. Thus the operational effects as reported within Chapter 5: Air Quality and Chapter 9: Noise and Vibration are effectively cumulative impact assessments in that they take account of all potential traffic generated by future development proposals. This also applies to the conclusions drawn where other topics have relied on the*

*results of these assessments, for example biodiversity (see Chapter 8: Biodiversity).*

96. In other words, because the traffic forecasts from other developments has fed into the traffic modelling that underlies the ES' assessment of various other environmental effects, the assessment of those other effects has factored in such cumulative impacts.
97. However, paragraph 15.3.27 has nothing to say about the cumulative assessment of GHG emissions (or their significance). The terms of the paragraph need to be read carefully. It follows on from paragraph 15.3.26, referring back to "these topics" meaning the "topics" referred to in that preceding paragraph (i.e. air quality, noise and vibration, people and communities and road drainage and the water environment). Those topics do not include climate impacts. Moreover, paragraph 15.3.27 itself refers only to specific environmental topics: (i) air quality and (ii) noise and vibration (as well as other topics that are based on the findings for these two effects, eg. biodiversity). It does not address or consider cumulative climate impacts or the significance of these.
98. Paragraph 4.3.8 of the Transport Assessment does not assist either. This simply refers to various "specific developments" that were modelled in the districts of Amber Valley, Derby City, Erewash and South Derbyshire and sets out the sources of information for modelling these development sites (e.g. relevant local plan documents).
99. In truth, what the Applicant *appears* to be asserting in its Response is simply this: because other developments fed into the traffic modelling assessments, there has therefore been an "inherent" assessment of the Scheme's cumulative climate impacts.
100. That is wrong. As Dr Boswell explains, in order to actually assess the Scheme's cumulative climate impacts the SoS will need to know what the additional (i.e. differential) projected GHG emissions are for the Scheme combined with other relevant developments.<sup>19</sup> That cumulative emissions data would then allow the SoS to go on to assess its significance – eg. by assessing the impact of those differential cumulative emissions as against eg. relevant carbon budgets.<sup>20</sup>

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<sup>19</sup> In terms of which developments should be included, Dr Boswell also explains that an appropriate study area needs to be established by reference to the environmental effect in question (here climate impacts). Dr Boswell further explains that the Applicant has not done this for the Scheme's climate impacts, instead it has sought to retrofit its assessment of traffic modelling (and the study area supporting this, quite distinct, assessment) to its assessment of GHG emissions. Moreover, the Applicant has applied different study areas to different carbon impacts, which Dr Boswell explains is inappropriate [**Boswell Report [84]**]. This point is dealt with further below.

<sup>20</sup> Dr Boswell sets out a straightforward way in which this type of data can be obtained [**Boswell Report [108] and preceding paragraphs**].

101. The Applicant has not provided this cumulative emission data; and it has certainly not assessed the significance of it by reference to any carbon budget/benchmark target.
102. Crucially, as Dr Boswell explains, the Applicant's traffic modelling assessments factors in all the cumulative traffic from other developments are included in the "Do Minimum" baseline assessment stage of the traffic modelling. This is explained in section 4 of the Transport Assessment, in particular at paragraphs 4.3.4 and 4.3.8. See also **[Boswell Report section 5, in particular [96]-[97]]**. Dr Boswell reproduces in his report Figure 4.2 of the Applicant's Transport Assessment which clearly shows this diagrammatically **[Boswell Report [107]]**. This fact that the Applicant's traffic modelling has factored in cumulative traffic into the "Do Minimum" baseline is, perhaps, not surprising in light of the fact that this modelling was designed for the purpose of assessing the performance of the highway network **[Boswell Report at [94]]**. However, as can be seen from Dr Boswell's report, performance-oriented transport modelling does not correctly identify (nor assess) the cumulative impacts of GHGs of the Scheme **[Boswell Report at [95]]**.
103. As has been explained above, in terms of assessing the Scheme's carbon impacts (and the significance of these), the Applicant has only considered the Scheme's individual additional GHG emissions. This is because the Applicant has only assessed the "Do Something – Do Minimum" scenario and the "Do Minimum" scenario includes all the cumulative impacts. By subtracting the "Do Minimum" scenario from the "Do Something" scenario, all that is left is the Scheme's individual and non-cumulative GHG emissions and it is only these (non-cumulative) emissions that have been considered against carbon budgets to assess their significance (see **Chapter 14 of the ES and Table 2-2 of the Response**).
104. In short, nowhere in the Applicant's documentation (whether in the ES or the Response) has the Applicant actually assessed the cumulative GHG emissions associated with the Scheme **[Boswell Report at [96]-[97], [99]-[101]]**. That is a fundamental failing and omission in the Applicant's assessment. As the ExA correctly concluded, the Scheme cannot be viewed in isolation.

### **EIA Regs Require the Assessment of Cumulative Carbon Impact**

105. Moreover, since an assessment of the cumulative GHG emission impacts of the Scheme is legally required under the EIA Regs, this failing also renders the environmental assessment unlawful.
106. The SoS must reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account his examination of the "environmental information" (which will include any environmental statement and further information) (Reg 21). According to reg



14 of the EIA Regs, an environmental statement must include *inter alia* “a description of the likely significant effects of the proposed development on the environment” and “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.”

107. Schedule 4 then sets out in more detail the information to be included in environmental statements, including *inter alia*:

**Para 1:**

*A description of the development, including in particular—  
... (d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.*

**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**

*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. (emphasis added)*

108. To be clear, and as is more fully explained by Dr Boswell in his report, the NPSNN fully accepts that the EIA process must be followed in full. The NPSNN cannot, as a matter of law, in any way limit or constrain what is required by the EIA process; a full assessment of a proposed DCO's environmental effects and their significance must be undertaken through the EIA process. This point is, in fact, recognised in the NPSNN at para 4.15 et seq. That section of the NPSNN even states, in relation to cumulative assessments that (**at 4.17**):

*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.*

109. Moreover, irrespective of what NPSNN policy might say as to how certain environmental effects should be considered, or weighed, in the decision-making process, the independent application of the EIA regime to the DCO process is designed to ensure that all significant environmental effects are both identified and assessed. Following this process, it is entirely permissible for the SoS to weigh a project's significant environmental effects (as part of the adverse impact of the project) into his assessment of the balancing exercise required under section 104(7) of the Planning Act 2008 (see **R (oao ClientEarth) v SSBEIS [2021] EWCA Civ 43** at [95]).

### **Further Issues**

110. Dr Boswell has raised in his reports a number of further issues with the Applicant's approach to considering cumulative emissions. For example, he highlights that the Applicant has not properly considered an appropriate study area for the assessment of carbon impacts and that the Applicant has applied different study areas for different sub-types of carbon emissions [**Boswell Report at [84]; see also section 10.6**].
111. Dr Boswell explains how the EIA assessment process, and DMRB guidance, expects the applicant to consciously consider what study area is appropriate in relation to a particular environmental effect [**Boswell Report at [81]**]. Here, the environmental effect in question is GHG emissions and impacts on climate. However, there is no indication that the Applicant has applied its mind to what should be the appropriate study area for cumulative climate emissions.
112. This is surprising, bearing in mind that this was a particular issue that the ExA raised. The ExA suggested that a "*reasonably consistent geographical*

*scale*” should be used, giving the example of the RIS1 or RIS2 programmes (see ExA Report at 4.15.117) but ultimately left this point to be addressed by the SoS.

113. The Applicant has not explained whether (and, if so, how and to what extent) it has factored in or considered any of the RIS1 or RIS2 programmes.
114. Moreover, for construction emissions, the study area is different to the study area used in relation to road-use emissions. For construction emissions the Applicant has only considered the Site boundary **[Boswell Report at [122]]**. Similarly for the assessment of land-use emissions **[Boswell Report at [129]-[130]]**.
115. Dr Boswell explains why all GHG sub-types should be assessed against the same study area **[Boswell Report at 83, see also section 10.6]**.

### **Monitoring measures**

116. Finally, it is worth noting (in relation to the Scheme’s likely significant effects) that the SoS is now under a duty to consider (if an order is to be made) whether it is appropriate to impose monitoring measures (Reg 21(1)(d) EIA Regs). When doing so, the SoS must consider certain factors set out in Reg 21(3), including “*if monitoring is considered to be appropriate, consider whether to make provision for potential remedial action*” (Reg 21(3)(a)).
117. For the reasons given above, the Applicant has not provided sufficient information on the Scheme’s likely significant effects for the SoS to (lawfully) even reach a reasoned conclusion under Reg 21(1). Moreover, for the reasons given in relation to the SoM, paragraph 2, bullet point 1 above, on the basis of the information that has been provided, this shows that there will be likely significant carbon impacts (i.e. impacts on climate) caused by the Scheme.
118. Strictly without prejudice to these submissions, in the event that the SoS were to consider making the order, we submit that he should then require monitoring measures in relation to GHG emissions. This is in particular necessary to address entirely unknown estimates of emissions from the Scheme beyond 2039. We have explained above [ADD REF to paras above around 63-64] why from the Scheme-related information before the SoS, there is no basis on which to know (with any certainty) how the proposed introduction of any future policy measures – such as the introduction of electric vehicles – will impact on the Scheme’s emissions. In light of this uncertainty, and the significant impacts which GHG emissions have on climate change, imposing monitoring measures (and any related, and practical, remedial action) would, therefore, be necessary.

### **Conclusion on Assessing Likely Significant Effects**

119. The Applicant has not provided sufficient information on the Scheme's likely significant effects on climate. In particular, the Applicant has not provided any assessment of the Scheme's cumulative GHG emissions impacts or the significance of these. Without this information, neither interested parties nor the SoS can properly consider the likely significant effects of the Scheme. Were the SoS to determine whether to make a DCO on the basis of the information that has so far been provided by the Applicant, there would be a breach of the EIA Regs.

**Air Quality Impacts (SoM para 2, bullet point 3)**

120. Due to limited resources, Ms Bain is not in a position to comment in any detail on the Applicant's Response in relation to this issue.

121. However, we note that the Applicant is relying, in their Response, on the success of recently introduced measures to improve air quality in Stafford Street (which has consistently been recorded as having a NO<sub>2</sub> Concentration above the Objective) (**Response at 4.2.3, 4.2.5 and 4.2.7**). These measures were introduced in August 2021 and the Applicant notes that it, therefore, not possible to state the exact effect they have made to local and wider air quality measurements (**Response at 4.2.3**).

122. If the Applicant is relying on the success of these recently introduced measures to show that the Stafford Street area will become compliant with limit values, even with the Scheme's construction, then the SoS should require appropriate monitoring measures, along with any related remedial action requirements, to be imposed (pursuant to Reg 21(1)(d), see further above on monitoring measures).

123. The Applicant also states at 4.2.6 that:

*Highways England has also been commissioned by DfT at a national level to look at two links on the A38 in Derby, that are within the East Midlands zone. Highways England modelling has identified that one of two links is modelled to be above the annual mean NO<sub>2</sub> limit value and this could persist for a number of years beyond 2020. The proposed Derby Junctions scheme makes a notable improvement to air quality in these locations as the qualify feature i.e. the adjoining footpaths, alongside the A38 are moved further back away from the road, where air quality concentrations would be lower.*

124. We dispute the assertion that the Derby Junctions scheme would make a "notable improvement to air quality in these locations" through moving the footpaths further back from the road. Whilst moving the footpaths may mean that people using them will be likely to experience improved air quality around them, that does not actually mean that the scheme has "improved" air quality in the locations referred to.

#### **Changes to relevant policy (SoM para 2, bullet point 4)**

125. Since the examination closed on 8 July 2020 there have been a significant number of changes to national policy and guidance, some of which is covered in Dr Boswell's report.

- (i) HM treasury Green Book – [Valuation of energy use and greenhouse gas: Supplementary guidance to the HM Treasury Green Book on Appraisal and Evaluation in Central Government](#) was published in October 2021. This document supplements HM Treasury's Green Book, providing specific guidance on how analysts should quantify and value emissions of GHGs.
- (ii) [Valuation of greenhouse gas emissions: for policy appraisal and evaluation](#) was published on 2 September 2021, which is a Government policy paper setting out a revised approach to valuing GHG emissions in policy appraisal.
- (iii) DfT's WebTAG guidance – on 13 October 2021 the DfT published a [notification of a forthcoming change to TAG](#), expected for November 2021, which will include changes to emissions factors
- (iv) [DMRB Volume 11, Section 3, Part 1, HA 207/07](#) guidance was used to calculate road user emissions [ES Ch.14, 14.3.6]. This guidance published in May 2007 was withdrawn in November 2019.
- (v) Highways England Carbon Reporting Tool was used to assess the GHG emissions for Scheme construction and maintenance [ES Ch.14, 14.3.5]. This was withdrawn on 21 September 2021 and has been replaced with an [updated version](#).

126. The ExA noted that the Applicant advised the scheme had been subject to economic assessment which followed the DfT's WebTAG guidance and HM Treasury's Green Book and the benefits and disbenefits monetised to provide a benefit to cost ratio (BCR). It was necessary for the ExA (and SoS) to satisfy themselves that the approach taken to the economic assessment was consistent with the advice at paragraph 4.5 of the NPS NN [**ExA Report, 4.5.11**], which provides that this information is important for the Examining Authority and the Secretary of State's consideration of the adverse impacts and benefits of a proposed development.

127. In order therefore to satisfy the requirement of NPS NN paragraph 4.5 and in order that the SoS can provide an up to date reasoned conclusion on the benefits of the Scheme, the Applicant must undertake an assessment of the Scheme against the most recent Government policy and guidance and recalculate the BCR which, in light of the above, is likely to have changed.

128. The recalculation of the BCR will also be relevant to the SoS's assessment of the "straightforward" balancing exercise required under section 104(7) of the Planning Act between the Scheme's "adverse impact" and "benefits".

#### **Adequacy of environmental information (SoM para 2, bullet point 5)**

129. Overall the adequacy of the environmental information produced in support of the application for Development is, in light of the length of time since the examination closed, inadequate and, as per the paragraphs above, further information is now required to provide the SoS with an up to date picture. In particular, Ms Bain is not in a position to comment substantively on the Applicant's Response because no information of sufficient detail has been provided by the Applicant in respect of the recent survey work mentioned in the Response (**Table 1, Response**), although she notes that Environmental Information, as defined in regulation 3 of the EIA Regulations, encompasses more than just the items listed by the Applicant in Table 1 of the Response.

#### **Veteran Oak Tree T358 (SoM para 4)**

##### **Survey work**

130. The SoS requested an update on the potential loss of the veteran oak tree in Markeaton Park following survey work that had been scheduled for May 2021. Although the loss of the tree was assumed as the worst-case scenario in the Environmental Statement the Applicant committed in the OEMP ([REP14-008, Ref: PW-LAN4](#)) to investigate whether the tree could be retained and the Scheme's impact on the tree's RPA reduced. This included a commitment to exploration work prior to any works to establish the tree's underground root connections and consultation with DCiC during the detailed design stage regarding the options to retain the veteran tree, minimise the Scheme impacts on the tree's RPA.
131. The Response says that the purpose of the planned survey works in May 2021 was to establish whether any primary roots of the veteran tree could be identified where the new footbridge foundations are to be built. The Applicant states that the survey works were prevented from being carried out because of protestor action and, in recognition of the sensitive nature of any works in the vicinity of the tree, the survey works have been suspended indefinitely.
132. The Applicant also notes that it remains possible to retain the tree and measures taken to reduce the Scheme impacts on the tree's RPA, but that the Scheme would still inevitably have a significant effect on the tree's RPA.
133. What the Applicant does not mention however is that serious concerns had been raised regarding the Applicant's proposed survey methods, which involved 'digging by hand and utilising vacuum excavation' to expose the tree's roots. These concerns were raised in a letter dated 16 May 2021 sent to the

Applicant from Dr Mark Bulling, Senior Lecturer in Ecology at the University of Derby, who noted that such methods could seriously disrupt the mycorrhizal (fungal) soil communities that are inherently related to the tree root system and are critical for the tree gaining nutrients and minerals. He also noted that any damage to the root system, albeit unintended, could result in increased risk of exposure to disease. He suggested instead the use of ground-penetrating radar as an alternative method which, he said, would provide a more complete and robust exploration of the root system and would by comparison be a relatively passive method than the proposed digging and excavation. This is backed up by Natural England's standing advice on veteran trees which confirms that damaging the soil surrounding a veteran tree's roots is a direct impact that could have negative consequences.

134. In order for the Applicant to fulfil its commitment to investigate the retention of the tree and complete exploration work prior to any works it should carry out a survey of the tree's roots using an appropriately sensitive and non-invasive method that would minimise potential harm to the tree, as suggested by Dr Bulling. The use of a non-invasive survey method is especially important where there is the possibility of retaining the tree (as noted by the Applicant, and despite the Scheme's apparently inevitable impact on its RPA) and extra care should therefore be taken not to undermine the integrity of the tree's RPA by excavating its roots.

#### **Compensation for loss of veteran tree T358**

135. The ExA considered that the loss of the veteran tree weighed significantly against the DCO being made [**ExA Report, 6.5.9**] but that its loss would clearly be outweighed by the national need for, and benefits of, the Proposed Development, and therefore found that paragraph 5.32 of the NPSNN has been satisfied [ExA Report, 6.5.14].
136. The NPS NN is clear that although the NPPF is not intended to contain specific policies for NSIPs it should be applied to the extent that it is relevant to the project (see NPSNN paragraph 1.18 "*The NPPF is also likely to be an important and relevant consideration in decisions on nationally significant infrastructure projects, but only to the extent relevant to that project.*"). NPPF (2021) paragraph 180(c) provides that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists. Footnote 63, in respect of wholly exceptional reasons, gives the example of infrastructure projects (including NSIPs, orders under the TWA and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat. Therefore, the application of NPPF paragraph 180(c) to NSIPs is directly contemplated and should therefore form part of the decision-making process. Accordingly, there should exist a suitable compensation strategy for the loss of veteran tree T358.

137. However, the only proposal in the event of the loss of the tree is to make the felled tree into a totem pole feature installed at the edge of Markeaton Park as part of the bat mitigation strategy. It is noted that if the tree can be retained a suitable alternative felled tree will be selected and made into a totem pole, so it is clear that the proposed totem pole goes no further than mitigation for loss of bat habitat. The proposal therefore does not amount to suitable compensation strategy for the loss of irreplaceable habitat (which is not confined only to bat habitat) and so NPPF paragraph 180(c) has not been met.

**Conclusion on veteran oak**

138. The Applicant should therefore carry out an appropriate survey of tree T358's roots using a method that does not disturb its roots in order to determine whether the tree can be retained. If it cannot be retained, then a suitable compensation strategy should be in place in order to satisfy NPPF 180(c).

Yours faithfully

*Richard Buxton Solicitors*

**Richard Buxton Solicitors**  
Environmental, Planning & Public Law

Enc.

- Dr Boswell's expert report
- Dr Boswell's expert report – appendices
- R (Bain) v SSoT & anr – Statement of Facts and Grounds