

# NORTH AND EAST MELTON MOWBRAY DISTRIBUTOR ROAD

Proof of Evidence LCC 12:  
Climate Change

Prepared by: Ian Davies

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Leicestershire County Council

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## Quality information

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## **1. Introduction**

### **1.1 Qualifications**

- 1.1.1 My name is Ian Davies. I have 20 years' experience working in climate change and sustainability.
- 1.1.2 I hold a Bachelors Degree with honours in Environmental Studies from the University of Glamorgan in 1997.
- 1.1.3 I am currently a Technical Director at AECOM where I have worked for 14 years.

### **1.2 Relevant Experience**

- 1.2.1 During my career I have prepared climate impact assessments across a number of sectors including highways, rail, power, aviation and urban regeneration. I have appeared as Expert Witness for climate on behalf of Highways England at the Development Consent Order Examination Hearing for the A38 Derby Junction.
- 1.2.2 My experience on road schemes includes climate impact assessment on the A303 Stonehenge, A38 Derby Junctions, A428 Blackcat, M42 Junction 6 and the M54 to M6 Link Road.

## 2. Involvement with the Scheme and Contribution Made

### 2.1 Scope of Involvement

- 2.1.1 I was engaged by Leicestershire County Council in 2017 as part of a team at AECOM to assess the climate impacts of the North East Melton Mowbray Distributor Road (NEMMDR), referred to herein after as the Scheme.
- 2.1.2 My team produced a Greenhouse Gas (GHG) Assessment Chapter and a Climate Change Adaption Chapter for inclusion in the Environmental Statement published in 2018. I was responsible for providing technical review of these assessments.
- 2.1.3 This Proof of Evidence provides information on the methodological approach for the climate impact assessment chapters, the standards used and the results. It also considers the Scheme in the context of UK planning and climate policy.
- 2.1.4 The evidence I present relates to the climate change adaption assessment presented in Chapter 12 of the NEMMDR Environmental Impact Assessment and the Climate Mitigation GHG Impact Assessment presented in Chapter 13 of the NEMMDR Environmental Impact Assessment. The assessment was specific to the date it was undertaken however where appropriate I have updated the information to include matters that have been raised since so that it reflects the up to date position.

### 3. Development of the Scheme

#### 3.1 Development Since Planning Submission

- 3.1.1 Development of the Scheme since planning permission was granted comprises some more detailed design development, mainly to determine the extent of land acquisition, for example in terms of vertical alignment, earthworks and landscaping. As there are no changes to the horizontal alignment, or speed limits, there is no predicted potential changes to the impacts of Greenhouse Gas (GHG)<sup>1</sup> from the Scheme on the climate or of the impacts of climate change on the resilience of Scheme since it was considered and granted planning permission .
- 3.1.2 Based on the advice received since planning permission was granted, I do not believe that the above design development alters the position as indicated in the Environmental Statement as updated by this evidence.

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<sup>1</sup> GHGs are those gasses that trap heat in the atmosphere causing a greenhouse effect on the earth, leading to global warming and climate change. The main GHGs and those considered as part of this assessment are Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), and Fluorinated gasses.



## 4. Assessment of Scheme Proposals

### 4.1 Introduction

- 4.1.1 The section summarises the GHG impact assessment and the climate change adaption assessment undertaken for inclusion in the Environmental Statement published by Leicester County Council in 2018. It covers National legislation, Planning Policy and guidance relevant to climate at the time of the assessment.
- 4.1.2 The climate assessment was undertaken to meet the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, SI 571 to ensure a comprehensive and robust assessment of environmental matters during the planning application process. Schedule 3, Paragraph 5f, requires that a description of the likely significant effects of the development on the environment resulting from 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 are presented in the Environmental Statement.
- 4.1.3 The Climate Assessment was specific to the date it was undertaken however where appropriate I have updated the information to include matters that have been raised since so that it reflects the up to date position on climate policy including the revision to the Climate Change Act 2008<sup>2</sup> in 2019 to amend the UK carbon reduction target to net zero by 2050 and the Carbon Budget Order 2021<sup>3</sup> setting the sixth carbon budget for the period 2033-2037.

### 4.2 Legislation and guidance relevant to climate at the time of the assessment

- 4.2.1 **The Climate Change Act 2008.** The Climate Change Act 2008<sup>4</sup> set a target for the UK achieve a carbon reduction of 80% against a 1990 baseline. It also set a requirement for a series of legally binding, five-year carbon budgets which place a restriction on the total amount of greenhouse gases the UK can emit over a 5-year period. At the time the GHG assessment was undertaken the carbon budgets presented in the table below had been published.

Carbon budget	Total budget (MtCO <sub>2</sub> e)
3 <sup>rd</sup> (2018 to 2022)	2,544
4 <sup>th</sup> (2023 to 2027)	1,950
5 <sup>th</sup> (2028 to 2032)	1,725

- 4.2.2 In line with industry guidance for GHG impact assessment for EIA (IEMA 2017), carbon emissions from the Scheme were presented in the context of these budgets.
- 4.2.3 Since the climate assessment has been undertaken government has amended the Climate Change Act to change the UK carbon target to net zero emissions by 2050<sup>5</sup>. In June 2021 the 6<sup>th</sup> carbon budget<sup>6</sup> was published, the first to align with the net zero target. The 6<sup>th</sup> carbon budget caps UK emissions between 2033 and 2037 to 965MtCO<sub>2</sub>e<sup>7</sup>.
- 4.2.4 The Climate Change Act also placed a duty on the Secretary of State to provide Parliament with a report every four years containing an assessment of the risks to the UK of current and predicted climate change impacts.

<sup>2</sup> <https://www.legislation.gov.uk/ukdsi/2019/9780111187654>

<sup>3</sup> <https://www.legislation.gov.uk/ukdsi/2021/9780348222616>

<sup>4</sup> <https://www.legislation.gov.uk/ukpga/2008/27/contents>

<sup>5</sup> <https://www.legislation.gov.uk/ukdsi/2019/9780111187654>

<sup>6</sup> <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

<sup>7</sup>

- 4.2.5 **National Planning Policy Framework (NPPF).** The National Planning Policy Framework (NPPF) 2018 was taken into consideration when assessing the climate impact of the Scheme. A revision to the NPPF was published on 20<sup>th</sup> July 2021, however, NPPF 2018 applied at the time the planning permission was granted. NPPF sets out a presumption in favour of sustainable development, stating that planning plays a key role in securing GHG emissions reductions. Paragraph 8 notes that achieving sustainable development means the planning system has three interdependent overarching objectives: economic, social and environmental. The update made to the NPPF in 2021 does not impact the assessment undertaken on this Scheme.
- 4.2.6 The NPPF also requires that the planning system take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures.
- 4.2.7 **Melton Mowbray draft Local Plan, 2016.** At the time the assessment was undertaken the draft local plan for Melton Mowbray makes reference to the importance of addressing the causes and effects of climate change and promoting low carbon development. Policy EN8 relates to Climate Change and requires all new development proposals to demonstrate mitigation and adaptation to climate change; this includes consideration of opportunities for sustainable modes of transport. At the time of the assessment Melton Borough Council was developing a Climate Local Action Plan which would set a carbon reduction strategy for Melton Borough.
- 4.2.8 The draft local plan also set an objective to adapt to climate change by reducing the extent of flood risk within the Borough. The allocation of large areas of greenfield land through the Local Plan for development could reduce the extent of permeable surfaces available for infiltration and therefore increase flood risk. The local plan encourages the use of Sustainable Urban Drainage (SuDS) and the development of buildings adaptable to the impacts of climate change as a response to this. The local plan, adopted in October 2018, does not change the outcome of this assessment.
- 4.2.9 **National Policy Statement for National Networks (NPSNN) (Department for Transport, December 2014).** While the Scheme is not large enough to be considered a Nationally Significant Infrastructure Project (NISIP) and therefore does not fall under the requirements of the requirements of the NPSNN it is worth considering the Scheme in the context of this policy. The NPSNN requires that Strategic Road Network Schemes should be put in the context of the national carbon budgets and the impact of a scheme on the UK's ability to meet these aligning with the assessment methodology used for the GHG assessment. It also states that no Scheme is likely to be significant.
- 4.2.10 Paragraph 3.8 of the NPSNN states: "The impact of road development on aggregate levels of emissions is likely to be very small. Impacts of road development need to be seen against significant projected reductions in carbon emissions and improvements in air quality as a result of current and future policies to meet the Government's legally binding carbon budgets and the European Union's air quality limit values. Carbon – the annual CO<sub>2</sub> impacts from delivering a programme of investment on the Strategic Road Network of the scale envisaged in Investing in Britain's Future amount to well below 0.1% of average annual carbon emissions allowed in the fourth carbon budget."
- 4.2.11 Paragraph 5.17 of the NPSNN 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. However, for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets."
- 4.2.12 Finally, paragraph 5.18 states: "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 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."
- 4.2.13 Paragraphs 4.2.9 to 4.2.12 refer to the NPS NN published in 2014. While this policy preceded the setting of the UK's 2050 net zero emissions target, as presented in paragraph 4.3.19, the impact of this

Scheme is still considered to be of low magnitude in terms of its impact on the UK meeting its carbon reduction targets.

### 4.3 Method of assessment

- 4.3.1 **Greenhouse gas (GHG) assessment.** The GHG assessment was undertaken in line with guidance published by the IEMA for assessing GHG emissions from a project for EIA<sup>8</sup>. IEMA's guidance provides advice on screening, scoping, assessing carbon emissions and determining significance and mitigation measures. Unlike many other EIA topics there is no defined threshold which if exceeded is deemed significant.
- 4.3.2 The purpose of the GHG assessment is to calculate estimated emissions arising as a result of the Scheme over its lifetime and to assess the significance of their impact on the climate. A 60-year design life was considered appropriate. The assessment addressed emissions from construction (i.e. embedded carbon in materials, fuel use during construction), operation (i.e. emissions from electricity used for signs and lighting and emissions from maintenance) and emissions from road users. The scope (i.e. emissions sources for inclusion in the assessment) and temporal (i.e. time period over which the assessment is undertaken) boundary of the assessment is considered appropriate for a planning application of this type.
- 4.3.3 The sensitive receptor for the GHG impact assessment is the global climate. In line with IEMA guidance all GHG emissions will contribute to climate change and might be considered significant.
- 4.3.4 No industry thresholds have been agreed to determine the significance of a Scheme's impact on the climate. IEMA therefore consider it is a good practice approach to compare a Scheme's carbon footprint against an existing carbon budget (global, national, sectoral, regional, or local), to identify the percentage impact the project will contribute to climate change. This provides a sense of scale of the magnitude of impact.
- 4.3.5 To determine the significance of effects from the Scheme, GHG emissions have therefore been presented against the UK carbon budgets. It is common practice in GHG accounting to consider exclusion of emission sources of less than 1% of an emissions inventory on the basis that they are not material.
- 4.3.6 If emissions from the Scheme are more than 1% of any carbon budget period where they arise the magnitude of the significance impact is considered high. Where the emissions from the Scheme are less than 1% of the carbon budget in which they arise the magnitude of the significance is considered low.
- 4.3.7 IEMA guidance also states it is down to a Practitioner's professional judgement to provide context on the magnitude of the impact. The International Finance Corporation (IFC) considers any project they fund that exceeds an annual threshold of 25,000 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) per annum to require annual emissions to be reported; suggesting that a scheme with emissions above this threshold is considered to have reasonable impact and benefiting from increasing management and surveillance. An annual threshold of 25,000tCO<sub>2</sub>e was therefore also used to contextualise the magnitude of the impact from the Scheme.
- 4.3.8 Emissions from the Scheme are calculated by comparing a do-minimum baseline scenario whereby the Scheme does not go ahead, against a do-something scenario where the Scheme is constructed and operated. The difference between the two scenarios represents the carbon impact of the Scheme.
- 4.3.9 Emissions from construction are calculated by applying publicly available emissions factors from Defra<sup>9</sup> and the Inventory of Carbon and Energy<sup>10</sup> against volumes of materials used, fuel used during construction, distances travelled, or quantities of waste disposed of.

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<sup>8</sup> <https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their-significance>

<sup>9</sup> <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

<sup>10</sup> <https://circularecology.com/embodied-carbon-footprint-database.html>

- 4.3.10 Emissions from maintenance and operational energy use are calculated as for construction. For road user emissions a regional assessment was conducted to consider changes in annual road transport emissions of NO<sub>x</sub>, PM<sub>10</sub> and CO<sub>2</sub> that may be brought about by the proposed scheme in the opening year (2021) and the design year (i.e. 15 years after opening, 2036) across the study area.. The latest Emission Factor Toolkit spreadsheet (EFT v8.0) at the time of assessment was used to estimate these emissions. 2030 emissions were used for the design year as this is the limit of projections within the EFT and therefore provides a worst-case assessment in terms of projected future fleet improvements.
- 4.3.11 The regional assessment predicted that there would be an increase in emissions of CO<sub>2</sub> with the scheme as a result of an increase in vehicle km travelled. In the scheme opening year of 2021 this was predicted to be an increase of 8,023 tonnes (7%) and 3,114 tonnes (2%) in the 2036 design year. In comparison to national CO<sub>2</sub> emissions targets, increases in CO<sub>2</sub> from the whole of the strategic road building scheme, as noted in the NPSNN, anticipated over the next 10 – 15 years are considered to be small (less than 0.1% of the annual carbon budget) and the increases associated with the scheme are considered to be part of that small increase.
- 4.3.12 Emissions from construction of the Scheme including embodied carbon materials, land use change and other construction activities are estimated to be 39,990tCO<sub>2</sub>e. When this is annualised it equates to 23,990tCO<sub>2</sub>e per annum. At the time the assessment was undertaken construction emissions were anticipated to occur during the 3<sup>rd</sup> carbon budget period spanning 2018 to 2022. Construction emissions equate to approximately 0.002% of any year during the third carbon budget period and were therefore assessed to be of low magnitude in terms of significance of impact. Annual construction emissions also fell below the 25,000tCO<sub>2</sub>e threshold used by IFC to determine if a project requires surveillance and monitoring.
- 4.3.13 Emissions from operation and use of the Scheme are estimated to equate to 196,121tCO<sub>2</sub>e over the 60-year project design life period. Road user emissions form 187,446 tCO<sub>2</sub>e of this total while energy use for lighting and signs comprises 7,640tCO<sub>2</sub>e and maintenance 1,035tCO<sub>2</sub>e. When annualised emissions equate to approximately 3,270tCO<sub>2</sub>e per annum. This is less than 0.0001% of both the 4<sup>th</sup> (2023 to 2027) and 5<sup>th</sup> (2028 to 2032) carbon budgets and is therefore assessed as being of low magnitude in terms of significance of impact.
- 4.3.14 Emissions presented in the GHG assessment could be considered conservative, particularly with regard to Road User emissions. While the emissions presented in the GHG assessment are considered to be correct based on Climate and Planning policy at the time, changes in government policy since the assessment will now impact these emissions.
- 4.3.15 Road user emissions account for approximately 80% of total Scheme emissions in the GHG assessment. When these Road User emissions were calculated the version of the Defra Emissions Factor Toolkit at the time included very little use of hybrid vehicles and no use of electric vehicles. However, it is now anticipated that emissions will reduce in line with current Government policy on transport decarbonisation.
- 4.3.16 In July 2021 The Department for Transport published the transport decarbonisation plan, 'Decarbonising Transport: a better, greener Britain[PPG18]<sup>11</sup>. The plan sets out government commitments as well as a series of associated actions to decarbonise the UK transport system. Key commitments that will impact the Scheme include:
- By 2030 ending the sale of new petrol and diesel cars and vans;
  - By 2035 all new cars and vans must be 100% zero emissions at the tail pipe; and
  - By 2040 the sale of all non-zero emissions HGVs.
  - A consultation has begun on the process on ending the sale of new non-zero buses.
- 4.3.17 The plan estimates this will reduce CO<sub>2</sub>e emissions from cars, vans and HGVs in the UK by between 620 and 850MtCO<sub>2</sub>e between 2020 and 2050 and busses by 35-37tCO<sub>2</sub>e over the same period.

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<sup>11</sup> <https://www.gov.uk/government/publications/transport-decarbonisation-plan>

- 4.3.18 As noted in Section 4.2.1, since the GHG assessment was undertaken in 2018 the UK's carbon reduction target has been amended to Net Zero by 2050. The first five carbon budgets were set on a trajectory to meet this 80% target. The assessment of GHG emissions presented in the EIA was therefore undertaken in the context of the 80% and found the magnitude of the significance impact to be low.
- 4.3.19 An assessment of emissions from the Scheme has subsequently been undertaken in the context of the 6<sup>th</sup> Carbon budget published in June 2021 which is aligned to the Net Zero target. This assessment found that emissions from the Scheme during the 6<sup>th</sup> Carbon Budget period (2033 to 2037) equate to 0.0016% of the budget and therefore are still considered of low magnitude in terms of impact significance.
- 4.3.20 **Climate change adaptation assessment.** The climate change adaption assessment considers the vulnerability of the Scheme to the impacts of climate change and identifies design measures to adapt the Scheme to these impacts.
- 4.3.21 Existing and future climate baselines for the locality of the Scheme were developed using historic weather data from Wittering Weather Station, the nearest weather station to the Scheme, and future projections from the Met Office (United Kingdom Climate Change Projections (2009), UKCP09). UKCP09 projections for a range of average climate variables across a number of probability levels (10%, 50% and 90%) were obtained and analysed including:
- mean annual, summer and winter temperatures;
  - mean daily maximum summer temperatures
  - mean winter temperatures and mean annual, summer and winter precipitation.
- 4.3.22 In addition, UKCP09 data for severe weather such as droughts, heatwaves and prolonged heatwaves was assessed.
- 4.3.23 The climate change adaption assessment covers the lifecycle of the Scheme including construction and operation. During this period a number of receptors to climate change were identified including:
- The workforce, their plant and machinery during construction
  - The Scheme assets during their operation and maintenance and the
  - End users of the Scheme.
- 4.3.24 A number of potential climate change impacts have been identified during construction and operation of the Scheme. During construction potential impacts included:
- Inaccessible construction site due to severe weather events (flooding, snow and ice, storms, very high temperatures), this may restrict feasible working hours.
  - Health and safety risks to the workforce during severe weather events, such as dangerous working conditions during storms and risk to sunburn and heatstroke during heatwaves.
  - Unsuitable conditions (due to very hot weather or very wet weather, for example) for certain construction activities, such as laying pavement materials. This may also impact efficiency of construction activities on site.
- 4.3.25 During operation of the Scheme potential impacts included:
- Material and asset deterioration due to high temperatures.
  - Overheating of electrical equipment, such as information and communication systems.
  - Health and safety risks to road users.
  - Longer vegetation growing seasons resulting in increased risks tree/ branch fall and increased maintenance and management requirements

- Damage to roads from periods of heavy rainfall.
- Flood risk on the network and damage to drainage systems with the potential for increased runoff from adjacent land contributing to surface water flooding.
- Increased slope instability as a result of prolonged/heavy precipitation leading to subsidence
- Inaccessible network during severe weather events; and
- Summer Ice' where dirt and oil residue build up on the road during a dry period and become incredibly slippery and dangerous when it rains (similar to ice on the road).

4.3.26 It was concluded on this basis that the proposed scheme may be vulnerable to a range of climate change effects. These were assessed in accordance with the methodology set out in Chapter 12 of the Environmental Statement published in 2018 which identified that these impacts were all considered to have a low significant residual effect following the implementation of appropriate adaption measures. No significant impacts were identified and there is nothing to justify a different view being taken.

#### 4.4 Scheme Mitigation Measures

4.4.1 **GHG impact assessment.** Various measures have been proposed to mitigate the impact of the Scheme on the climate and have been incorporated into the design and construction planning of the proposed scheme.

4.4.2 The design of the Scheme is being developed to optimise the cut/fill balance of site materials to minimise the need to import/export material. This reduces emissions from the transportation of materials as well as emissions from any off-site activity associated with their provision or removal.

4.4.3 A Construction Environmental Management Plan (CEMP) will be prepared to reduce the impact of construction activities. This CEMP would include a Site Waste Management Plan which will lead to a reduction in emissions from the transportation and treatment of waste. Waste arisings will be prevented and designed out where possible. Where re-use and prevention are not possible, waste arisings would be managed. in line with the waste hierarchy Opportunities to re-use material resources will be sought where practicable.

4.4.4 The appointed contractor is required to implement mitigation measures to manage HGV movements and construction phase traffic. Delivery of goods and materials will be managed through careful programming of delivery. The contractor will also implement a travel plan that supports and encourages sustainable travel e.g. public transport, cycling, walking, and car-sharing. Where feasible any vegetation removed will be replaced to minimise loss of carbon sink.

4.4.5 **Climate change adaption.** A range of mitigation and adaption measures designed into the Scheme to increase its resilience to climate change impacts.

4.4.6 Consideration will be given to the specification of construction materials that have properties that are resilient to climate change such as increased tolerance to fluctuating temperatures and moisture levels. Good construction practices to ensure asphalt layers are well compacted and contain adequate binder with good water-resistant properties. A high friction surface coating on lengths of carriageway leading up to junctions and pedestrian crossings will be used to reduce the risk of accidents during adverse weather events.

4.4.7 A number of measures to account for the forecast impacts of flood risk due to climate change are proposed including Sustainable Urban Drainage and flood compensatory storage while drainage systems and culvert design will account for projected rainfall patterns.

4.4.8 Emergency response and contingency plans will be put in place and the work force will receive training on appropriate action to take during severe weather events such as heatwaves or flooding.

4.4.9 During operation of the Scheme regular maintenance of assets will be undertaken to detect deterioration due to climate impacts. Deterioration models will be used to identify appropriate maintenance regimes. Drainage systems will be maintained regularly and sweeping, and cleaning will

be undertaken to remove debris from the road surface. Monitoring devices will be installed on vulnerable slopes and there will be a requirement for regular slope stability/ geotechnical surveys.

- 4.4.10 Emergency response and contingency plans will be put in place should an adverse weather event impact use of the road. Suitable network redundancies and diversion routes will be identified.
- 4.4.11 Landscape planting and the appropriate use of SuDS to maximise the connectivity of habitats, reduce runoff, enable migration across corridors, and enhance habitat creation and the ecological network will be implemented.

## 5. Summary and Conclusions – to be read at the inquiry

- 5.1 The GHG impact assessment presented in the Environmental Statement has demonstrated the effect the construction and operation of the Scheme will have in respect of GHG emissions and has presented them into an overall context.
- 5.2 Unlike many other topics assessed in EIA there are no defined thresholds for GHGs which if exceeded are deemed significant. In line with IEMA guidance GHG emissions from the Scheme have therefore been considered in the context of existing carbon budgets. At the time the assessment was undertaken the 5<sup>th</sup> carbon budget, covering the period 2028 to 2032, was latest to be published. Emissions from the Scheme during any year in the 4<sup>th</sup> and 5<sup>th</sup> carbon budget periods represent less than 0.0001%. On the basis that emissions sources of less than 1% are not considered material in carbon accounting terms, GHG emissions from the Scheme during these carbon budget periods were considered to be of low magnitude in terms of the significance of their impact.
- 5.3 Since the EIA was published a further assessment of GHG emissions from the Scheme has been undertaken against the 6<sup>th</sup> carbon budget period (2033 to 2037). The 6<sup>th</sup> carbon budget became law in June 2021 and is the first to align with the UK's net zero by 2050 target. GHG emissions from the Scheme during the 6<sup>th</sup> carbon budget equates to 0.0016% of the budget and therefore are still considered of low magnitude in terms of impact significance.
- 5.4 IEMA also suggests that professional judgement should be used by a carbon Practitioners to put the magnitude of emissions from a Scheme into context. As discussed the reporting threshold of 25,000 tCO<sub>2</sub>e per applied by the IFC where it is considered that project has a reasonable impact and would therefore benefiting from increasing management and surveillance has been used. The Scheme does not breach this threshold during any year of operation.
- 5.5 For GHG emissions it can also be concluded that the emissions reported in the EIA could be considered a conservative as the modelling of road user emissions was based on government policy and guidance at the time. The estimated road user emissions do not take into account for example recent government policy to decarbonise transportation in the UK by 2050. No update of electric vehicles and a very minor uptake or hybrid vehicles was included.
- 5.6 If government policy is met likely and anticipated effect of such a change is emissions from road users will decline over the life of the Scheme as the UK moves to net zero.
- 5.7 A resilient road network is an integral part of a sustainable transport network. According to Highways England in their Net Zero Highways Plan<sup>12</sup> 9 of 10 passenger miles are travelled by road and 79% of goods are moved by road. Roads currently represent a higher carbon way to travel however government policy to decarbonise the road network through lower carbon construction and maintenance and the increased use of electric and other low carbon powered vehicles butts the UK on a trajectory to net zero.
- 5.8 Government has set its trajectory for net zero road transport by 2050 which includes interim targets of a 55% reduction in emissions by 2030 and up to a 90% reduction in emissions by 2040.
- 5.9 Sustainable development needs to consider the balance between economic, social and environmental impacts and benefits. A robust strategic road network has a major role to play in the future economic and social wellbeing of the UK allowing us to work, enjoy recreation and delivery of goods and services. Even with significant investment in rail, walking and cycling the majority of long journeys will likely still be by road in 2050.
- 5.10 The Climate Change Adaption Assessment identified a number of potential impacts from climate change during construction and operation of the Scheme. It is concluded however that by implementing a number of appropriate design measures and operational procedures there will be no significant impacts from the climate on the Scheme.

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<sup>12</sup> <https://highwaysengland.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf>



## Appendix A – Review of National policy statement for national networks

A.1 On the 22 July the Secretary of State for Transport announced that in light of changes to government policy on net zero and the release of the government’s Transport Decarbonisation Plan, a review of the NPS would be undertaken in 2021 and completed no later than 2032<sup>13</sup>. The Secretary of State advised however that while the review is undertaken the NPS remains relevant government policy.

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<sup>13</sup> [Review of National policy statement for national networks - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/secretary-of-state-announces-review-of-national-policy-statement-for-national-networks)



