

# **A66 Northern Trans-Pennine project**

**TR010062**

## **7.14 Outline Carbon Strategy**

**Infrastructure Planning (Examination Procedure) Rules 2010**

**Deadline 3**

**Planning Act 2008**

**24 January 2023**

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Examination Procedure)  
Rules 2010**

A66 Northern Trans-Pennine project  
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**7.14 OUTLINE CARBON STRATEGY**

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<b>Abbreviation</b>	<b>Definition</b>
BBA	Balfour Beatty Atkins
CJP	Costain Jacobs Partnership
DCO	Development Consent Order
DIP	Delivery Integration Partner
DMRB	Design Manual for Roads and Bridges
EMP	Environmental Management Plan
GHG	Greenhouse Gas
LCA	Life Cycle Assessment
NH	National Highways
PAS	Publicly Available Specification

## 1. Introduction

### 1.1 Project Overview

1.1.1 The A66 Northern Trans Pennine Project (hereinafter referred to as ‘the project’) comprises the improvement of the A66 between the M6 at Penrith and the A1(M) at Scotch Corner. The Project is to be delivered by The Enterprise on behalf of National Highways. This is made up of four Delivery Integration Partners (DIPs), Kier, Balfour Beatty/Atkins (BBA), Keltbray and Costain Jacobs Partnership (CJP).

1.1.2 Within the project there are 10 Schemes, listed below (Note: Scheme number 10 does not exist) –

- 0102 M6 J40 to Kemplay Bank
- 03 Penrith to Temple Sowerby
- 0405 Temple Sowerby to Appleby
- 06 Appleby to Brough
- 07 Bowes Bypass
- 08 Cross Lanes to Rokeby
- 09 Stephen Bank to Carkin Moor
- 11 A1(M) J53 Scotch Corner

1.1.3 The project involves upgrading the existing single lane sections of the A66 to dual two-lane all-purpose roads with a speed limit of 70 miles per hour (mph), with the exception of a section of the A66 from the M6 junction 40 through Kemplay Bank which will have a speed limit of 50mph. The project also includes amendments to existing junctions and accesses within these sections



Figure 1: Allocation of scheme sections

### 1.2 Carbon Strategy

1.2.1 This document sets out an outline of the principles of the Carbon Strategy that is committed to in the Environmental Management Plan (the EMP) (APP-019). The Strategy is intended to demonstrate how National Highways will meet commitment reference MW-CL-01.

1.2.2 Through implementation of the Strategy a robust carbon management process will be adopted throughout the design and construction of the project.

- 1.2.3 Each of the DIPs is required to adhere to the EMP including complying with MW-CL-01 and the detailed Carbon Strategy.
- 1.2.4 As part of the design process, the DIPs will work to update the Carbon Strategy to include detailed information about the specific activities and proposals to be implemented during detailed design and construction. In accordance with MW-CL-01, no part of the project can start until a Carbon Strategy is developed in detail, has been subject to stakeholder consultation (as described in Chapter 1 of the EMP) and has been approved in relation to that part.

## 2. Strategic objective

- 2.1.1 The strategic objective for the Carbon Strategy is to minimise GHG emissions through design and construction. The objective will be met by:
- Implementing the Carbon Strategy in accordance with EMP measure MW-CL-01; and
  - Undertaking quarterly GHG emission returns during construction, to be reported in accordance with National Highways' requirements.

## 3. Integrating carbon management into decision making

- 3.1.1 In order to achieve the strategic objective, the DIPs will follow the principles and components of the industry recognised PAS 2080: 2016 Carbon Management in Infrastructure. PAS 2080 promotes carbon reduction on a whole life basis, more collaborative ways of working and a culture of challenge in the infrastructure value chain through which innovation can be fostered.
- 3.1.2 As the project progresses through design and construction measures to minimise and reduce GHG emissions will be considered and implemented where appropriate. These measures will follow the carbon reduction hierarchy outlined in PAS 2080 of build nothing – build less – build clever – build efficiently. In accordance with this hierarchy the following measures, as outlined in the EMP, will be implemented:
- **Build Nothing** – Maximising the potential for re-using and/or refurbishing existing assets and infrastructure to reduce the extent of new construction required (e.g. reuse and repurposing of signage or other street furniture) (see the EMP [APP-019] measure D-CL-01)
  - **Build Less** – The design of the new vertical and horizontal geometry shall, where practicable (and in accordance with the Works Plans, Limits of Deviation and other constraints set out in the DCO) maximise the potential for reuse of material recovered from site (see the EMP [APP-019] measure D-CL-01)
  - **Build Clever** - Identifying low carbon and/or reduction resource consumption solutions (including technologies, materials and products) to minimise resource consumption during construction, operation and end of life (see the EMP [APP-019] measure D-CL-01)
  - **Build Efficiently** – Where appropriate, identify, assess and integrate measures to further reduce carbon through on or off-site sequestration (see the EMP [APP-019] measure D-CL-01)
- 3.1.3 The general components of a PAS 2080 aligned carbon management process are as follows:

## **3.2 Governance**

- 3.2.1 As outlined within the PAS 2080 Guidance Document<sup>1</sup> “every member of the value chain is responsible for contributing to the successful implementation of a PAS 2080 compliant Carbon Management Process”.
- 3.2.2 As the Asset Owner, National Highways are responsible for setting clear objectives and targets for carbon management.
- 3.2.3 The Enterprise will promote early engagement with subcontractors and suppliers to encourage collaboration with designers and material suppliers. Subcontractors and suppliers in turn will promote early engagement and proactively communicate carbon information to other value chain members to ensure low carbon solutions are taken forward.
- 3.2.4 To ensure consistency and collaboration an Enterprise Carbon Discipline Lead has been appointed, sitting under an Enterprise Carbon Discipline Sponsor. Each DIP has separately appointed a DIP Carbon Discipline Lead to ensure decisions made at an Enterprise level are followed throughout within respective designs. Each role will be responsible for driving collaboration, consistency, and efficiency within the carbon discipline, create, support, embed the carbon management system that meets the requirements of PAS 2080.

## **3.3 Target setting**

- 3.3.1 As committed to within the Environmental Management Plan (APP-019) measure MW-CL-01, targets will be set in order to minimise GHG emissions and reduce GHG emissions during construction in line with the principles of PAS2080.
- 3.3.2 As the Carbon Strategy develops, carbon reduction targets for the project will be established through discussions with the DIPs and National Highways. The Strategy will set out the scope of, and baseline upon which targets will be measured, monitored and reported.

## **3.4 Quantification**

- 3.4.1 The Enterprise will assess and manage whole life carbon throughout design and construction. The quantification of GHG emissions allows carbon hotspots to be identified and will inform design development / construction practices.
- 3.4.2 The quantification methodology will be set out in further detail as the Strategy is developed, however, it will align with the Environmental Statement submitted in support of the application for the Development Consent Order, Chapter 7 [APP-050], 7.4 Assessment methodology.
- 3.4.3 DMRB LA 114 (Climate) requires use of an industry recognised carbon calculation tool in accordance with the Overseeing Organisation requirements. It is proposed that the industry recognised National Highways Carbon Calculation Tool will be used for this purpose, this tool was used at preliminary design stage to create the baseline.

## **3.5 Monitoring and reporting**

- 3.5.1 During design and construction phase, carbon emissions will be monitored for the purpose of assessing performance against carbon targets. Where there are opportunities identified for reducing emissions through material efficiencies or alternative working methods, these will be recommended and where practicable opportunities will be taken forward in agreement with the DIP Leads.

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<sup>1</sup> [https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2019/06/Guidance-Documents-for-PAS2080\\_vFinal.pdf](https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2019/06/Guidance-Documents-for-PAS2080_vFinal.pdf)

- 3.5.2 The mechanism for tracking carbon performance will be defined in the Strategy.
- 3.5.3 In line with commitment reference MW-CL-02 quarterly GHG emission returns during construction shall be reported in accordance with National Highways' requirements. Data provided for the GHG returns shall be evaluated to inform any ongoing monitoring of GHG emissions.

### **3.6 Continual improvement**

- 3.6.1 Continual improvement will form a core part of the carbon management process and enables lessons learned from applying the carbon management process components to improve the delivery of future assets and programmes of work.
- 3.6.2 The project will actively consider ways in which to achieve continual improvement principles, including, for instance, awareness training; and knowledge sharing of best practice from industry and across DIPs.