



Visual Impact Provision (VIP)

Peak District East Project

Carbon Management Statement

April 2020

National Grid
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV6 3DA

1.1 Introduction

1.1.1 This Carbon Management Statement has been provided to support a full planning application that has been made by National Grid to Barnsley Metropolitan Borough Council and Peak District National Park Authority for the following development:

- Construction of a new sealing end compound, including permanent access;
- Construction of a temporary haul road from Brook Hill Lane including widened bellmouth;
- Construction of a temporary Trans Pennine Trail (TPT) diversion to be used for approximately 12-18 months; following construction approximately 410m of said diversion surface would be retained permanently; and
- Erection of two bridges (one temporary and one permanent) along the TPT diversion

1.1.2 The applications falls within the administrative areas of Barnsley Metropolitan Borough Council and Peak District National Park Authority with the application being led by Barnsley Metropolitan Borough Council, Application Reference 2019/1013.

1.1.3 A Planning Policy Statement has been provided, which alongside the Environmental Assessment Report Chapter 5 (Planning Policy), sets out the prevailing planning policy context within which the Proposed Project falls to be determined.

1.1.4 This Carbon Management Statement has been produced to demonstrate how the Visual Impact Provision (VIP) Peak District East project, hereon referred to as the Proposed Project assists in meeting:

- Barnsley Metropolitan Borough Council's requirements relating to carbon management set out in Barnsley Local Plan 2019 Policy CC1 relating to Climate Change, and Policy CC2 relating to Sustainable Design and Construction; and
- the requirements set out in Peak District National Park Authority Local Development Framework Core Strategy CC1 relating to Climate Change Mitigation and Adaptation.

1.2 The Proposed Project

1.2.1 The VIP project, funded by Ofgem, aims to improve the visual quality of certain areas within England and Wales, particularly within Areas of Outstanding Natural beauty (AONBs) and National Parks. The Proposed Project represents a major opportunity to mitigate the visual impact of existing electricity infrastructure in and around the village of Dunford Bridge on the edge of the Peak District National Park and to conserve and enhance the natural beauty, wildlife and environmental heritage of the area. In summary, the main works comprise:

- Removal of the existing Sealing End Compound (SEC) at Dunford Bridge, eight pylons and 2km of 400kV overhead line;
- An underground XLPE cable of approximately 1.8km along the Transpennine Trail from the entrance of the Woodhead Tunnel to the proposed new SEC;

- Construction of a new SEC and replacement tension pylon including a permanent access off the Trans Pennine Trail;
- Temporary laydown areas and access tracks to facilitate construction activities; and
- Construction and removal of a temporary Trans Pennine Trail diversion for use during the construction phase of the Proposed Project (the diversion will include construction of a permanent Bridge 1 and a temporary Bridge 2).

1.2.2 Policies CC1 and CC2 from Barnsley Local Plan 2019 and Policy CC1 from Peak District National Park Authority Local Development Framework Core Strategy are detailed overleaf.

1.3 Planning Policies

Barnsley Local Plan 2019, Policy CC1 Climate Change

We will seek to reduce the causes of and adapt to the future impacts of climate change by:

- *Giving preference to development of previously developed land in sustainable locations;*
- *Promoting the reduction of greenhouse gas emissions through sustainable design and construction techniques;*
- *Locating and designing development to reduce the risk of flooding;*
- *Promoting the use of Sustainable Drainage Systems (SuDS);*
- *Promoting and supporting the delivery of renewable and low carbon energy; and*
- *Promoting investment in Green Infrastructure to promote and encourage biodiversity gain.*

19.2 The following policies in this section, CC2 to RE1 provide the detailed policy framework for the implementation of interventions/ initiatives identified in this policy.

Barnsley Local Plan 2019, Policy CC2 Sustainable Design and Construction

Development will be expected to minimise resource and energy consumption through the inclusion of sustainable design and construction features, where this is technically feasible and viable. All non-residential development will be expected, to achieve a minimum standard of BREEAM 'Very Good' (or any future national equivalent). This should be supported by preliminary assessments at planning application stage.

19.3 *Development proposals will be expected to consider energy efficiency and sustainable design from the outset and will be required to include details of their sustainability within their Design and Access Statement.*

19.4 *For housing development energy efficiency is regulated by Building Regulations. We will encourage energy efficiency that exceeds those minimum standards set out in national standards and take that into account where proposed in support of a planning application.*

19.5 *We will use the BREEAM (British Research Establishment Assessment Method) to measure the environmental performance of all non-domestic buildings. As well as energy use and the emissions generated BREEAM deals with water use, materials and waste management, land use and ecology, pollution, health and well-being and transport.*

19.6 *We will encourage and plan for sustainable decentralised zero or low carbon energy generation, such as biomass-fuelled district heating or combined heat and power (CHP) schemes. Where a heat network is not available or viable, a contribution ensuring connection to a future district heating scheme is required on suitable developments. Developments not connected and unsuitable for future connection to a heat network will rely on energy generated from renewables, like solar panels, photovoltaics and heat pumps.*

Barnsley Climate Change Emergency Declaration

We want to protect Barnsley for future generations. A key part of this is improving the climate and reducing carbon emissions.

In September 2019 Barnsley Cabinet declared a climate emergency to bring these issues to everyone's attention and to support the transition to a zero carbon Council and Borough. To help Barnsley to reduce its carbon emissions two programmes are being proposed:

- Zero 40 - Barnsley Council will become carbon zero by 2040, or earlier if possible
- Zero 45 - where the borough will become zero carbon by 2045

<https://www.barnsley.gov.uk/services/our-council/reducing-carbon-emissions/>

The plans for Zero 40 and Zero 45 will have carbon targets and be driven by five themes which will focus on existing carbon reduction programmes for the council. These themes will be:

- *energy efficiency and procurement of energy*
- *resource efficiency*
- *sustainable transport*
- *renewable*
- *decentralised heating*

A critical element of both the Zero 40 and Zero 45 strategy will be to increase the number of trees across the borough. The Government sponsored Trees 2020 initiative will play a role in these plans, alongside Barnsley's local communities, to help increase existing tree planting projects. Altogether this will result in an additional 10,000 trees being planted across the borough during the first five years of Zero 40.

Barnsley Council have a 2015 – 2025 Energy Strategy and a Carbon Management Programme that already commit to reducing the level of carbon being emitted. The Energy Strategy notes that:

“We shall, through land use planning and the application of local planning policies within the existing Core Strategy and draft Local Plan, encourage the development of low-carbon energy production (including energy infrastructure) and seek to ensure that general development, through the adoption of good design principles, minimises both energy consumption requirements and the emission of greenhouse gases and other air pollutants. Emissions from transport are noted as a major cause of poor air quality in the Borough and in consequence the Council's 7 Air Quality Management Areas (AQMAs) are located adjacent to busy roads”.

Peak District National Park Authority, Local Development Framework Core Strategy Policy CC1: Climate Change Mitigation and Adaptation.

In order to build in resilience to and mitigate the causes of climate change all development must:

A. Make the most efficient and sustainable use of land, buildings and natural resources.

B. Take account of the energy hierarchy by:

I. reducing the need for energy;

II. using energy more efficiently;

III. supplying energy efficiently; and

IV. using low carbon and renewable energy.

C. Be directed away from flood risk areas, and seek to reduce overall risk from flooding within the National Park and areas outside it, upstream and downstream.

D. Achieve the highest possible standards of carbon reductions.

E. Achieve the highest possible standards of water efficiency.

In all new and replacement housing, other than affordable housing of less than 3 units, a minimum sustainability standard, equivalent to that required by the government of affordable housing, shall be achieved unless the applicant provides evidence to demonstrate that it is not viable for a particular development.

Non-residential major development above 1000m² floorspace must achieve a Buildings Emissions Rate at least 10% less than the Target Emissions Rate.

1.4 Policy Application to the Proposed Project

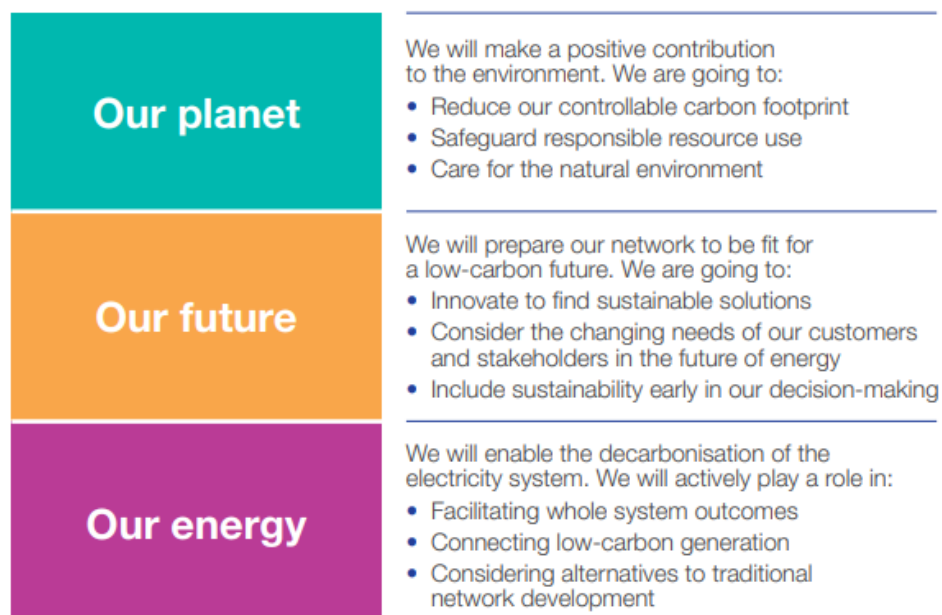
- 1.4.1 This statement draws upon the existing information already considered as part of the application and demonstrates that the core principles of the planning policies referenced in Section 1.3 have been and will continue to be met. This Carbon Management Statement details how the Proposed Project has followed National Grid's carbon management process, which aligns to the principles of PAS2080: Managing Carbon in Infrastructure. It also provides information on how the project will reduce waste, implement the principles of the energy hierarchy and promote biodiversity. a

1.5 Carbon Management Statement

- 1.5.1 Reflecting the Barnsley Metropolitan Borough Council and Peak District National Park Authority policies, as well as national policy, National Grid have embedded sustainability within business strategy and future business plans. The National Grid [Environmental Sustainability Policy](#) outlines our commitment to environmental sustainability and supports our [Group Sustainability Strategy – Our Contribution](#).

1.5.2 National Grid announced in late 2019 that it has committed to achieve net zero emissions in scope 1 and 2, by 2050.

1.5.3 National Grid Electricity Transmission launched its own sustainability strategy last year – [Delivering our Environmental Future](#), which outlines the targets and commitments for Electricity Transmission. These key areas of focus are shown below.



1.6 National Grid Carbon Commitment and Targets

1.6.1 The National Grid Electricity targets are outlined in this strategy, those particularly relevant to this project have been included below:

- park
- Reduction in controllable carbon footprint by 20%
- Reduction in carbon intensity of construction design by 50% from 2015
- Deployment of 30 Alternative Fuel Vehicles
- Landfill diversion rate of 95% (across offices and operational sites)
- Enhancing the value of natural assets in more than 30 sites
- Net environmental gain on construction
- Reducing the visual impact of our transmission assets in at least one AONB/national park
- Include carbon and environmental considerations as part of the evaluation criteria in our procurement tenders

1.6.2 These targets help increase business resilience to climate change, resource use and biodiversity whilst also driving cost efficiencies for consumers.

Targets in the RIIO-T2 Plan

- 1.6.3 In the RIIO-T2 Business plans for Electricity Transmission we've also included environmental sustainability targets for 2026 including for our construction projects (some of these are dependent on funding agreement from OFGEM and we will have confirmation of this later at a later date).

Progress on targets

- 1.6.4 National Grid Electricity Transmissions progress against its targets are published on its [website](#).

1.7 National Grid's Warm Homes fund

- 1.7.1 In 2019 when the project design was being finalised, Barnsley Council received over £250,000 from National Grid's Warm Homes fund to install more energy efficient central heating boilers and radiators in 123 households. This will have a positive climate change benefit, helping address fuel poverty and energy efficiency within the Council's area (see <https://www.barnsley.gov.uk/news/warm-homes-funding-secured/>).

1.8 National Grid Sustainable Construction Processes and Tools

- 1.8.1 National Grid has an Environmental Management System (EMS) which is accredited to ISO14001:2015. It provides a framework to manage environmental impacts, meet applicable environmental legislation and continually improve environmental performance.
- 1.8.2 National Grid's Transmission Procedure TP215 supports the EMS and sets out the National Grid procedure for defining what the environmental requirements and responsibilities are throughout the Electricity Transmission Network development process. TP215 requires carbon management to be factored into each project from option selection through to delivery and includes reference to tools and standards that should be applied to each National Grid project. It also refers to responsible material management. There are a number of operational procedures referenced in TP215 that underpin National Grid's EMS, these procedures are intended for the use of National Grid employees.

1.9 Carbon Pricing

- 1.9.1 As outlined in TP215, carbon pricing is applied at the option selection stage at the beginning of the project process. The carbon footprint calculated at this stage includes capital and operational carbon, which is multiplied by an internally applied carbon cost. Carbon pricing is applied to all major investment decision to ensure that carbon is factored into the decision-making process.

1.10 Sustainable Asset Tool

- 1.10.1 The purpose of the Sustainable Asset Tool is to stimulate innovative alternatives to more traditional design, allowing for the delivery of projects in a sustainable manner. It is a database of sustainable design decisions and actions taken on past projects. These should be reviewed to see if they can be applied to the project at key stages from early

design through to construction and delivery. The Sustainability Register is produced as an output from the tool, capturing the sustainable aspects of options which have been reviewed for the project. The Sustainable Asset Tool is then revisited, and the Sustainability Register updated, throughout the project lifecycle to ensure applicable sustainable design considerations are implemented.

- 1.10.2 A range of opportunities that align with carbon reductions are included within the Sustainability Register for the project including energy efficient eco cabins, use of non-primary aggregates, reuse of mechanical and electrical assets and potential for electric vehicle charging on site – these opportunities are under review.
- 1.10.3 The tool captures information on carbon, energy, waste and material.

1.11 Carbon Footprint

- 1.11.1 An internal carbon footprint is completed at the end of our internal design to let us track progress against our carbon intensity targets.
- 1.11.2 The Carbon Interface Tool (CIT) is implemented once a project goes out to tender and must be completed by all potential Contractors. The purpose of the CIT is to determine an estimate of the planned capital carbon footprint of the project, as well as drive carbon efficiency through good practices and the use of sustainable resources. This enables National Grid to determine how the potential Contractors would incorporate sustainability into the Proposed Project. Through doing so, the carbon footprint of potential Contractors can be directly compared, allowing carbon to factor into the tender moderation. This process was implemented on the VIP Peak District East Project.
- 1.11.3 Once the contract is awarded the CIT is issued to the project team and the Project Manager ensures it is completed and submitted to the National Grid Carbon Specialist. Learnings from each project are also then applied during the option appraisal stage of other National Grid projects, therefore helping drive continual improvement. Upon completion, the final CIT will be reviewed against the estimated carbon footprints produced at both detailed design by the Investment Engineer, and at tender by the awarded Contractor.
- 1.11.4 A CIT has been produced for the Proposed Project and will be reviewed and updated with information from the Contractor as the works progress.

1.12 Contract award and Sustainability

- 1.12.1 As described above National Grid implement tools to incorporate carbon and energy efficient design into the project, these responsibilities lie with various roles including that of the Contractor. The ability of the Contractor to implement sustainable practices is considered as part of the tender process and subsequently contributes to determining the contract award. Once awarded there are requirements set in place for the Contractor to fulfil and regularly monitor and provide updates. The reporting tool that is used is called the Sustainable Construction Information Platform. It allows teams to input and report on environmental data, including aggregates, waste, reuse of materials and energy use.

1.13 Carbon Management and the Proposed Project

1.13.1 As described in the preceding sections, consideration is given to carbon management and energy efficient design from the outset of all National Grid projects including the Proposed Project. To meet our commitments the above policy, standards, processes and tools are implemented throughout the project lifecycle from initial options through to delivery. The following section describes the measures that have been or will be applied as a result of the Proposed Project and is structured according to the project lifecycle. The stages are:

- Design & Construction;
- Operation; and
- Decommissioning.

1.13.2 Carbon management measures are referred to across a number of documents that support the planning application for the Proposed Project. This includes the Outline Construction Environmental Management Plan (OCEMP), which outlines the environmental requirements and mitigation that the Contractor must work to during construction of the Proposed Project.

1.13.3 The following section includes consideration of emissions, waste management and travel. The final section of the statement considers climate change in its wider context and signposts other documents that demonstrate how we have addressed the points included within the policy.

1.14 Low and Zero Carbon Technologies

1.14.1 Given the nature of the Proposed Project, the design is driven by safety, technical specifications and security, whilst also meeting the main project objective which is to reduce the visual impact of the existing infrastructure. Therefore, opportunities to incorporate low and zero carbon technologies are limited to design elements such as the PIR lighting and use of efficient plant, which are discussed further in the following sections. Low carbon technologies will be actively pursued and progressed in detailed design.

1.15 Design & Construction

Energy Efficiency

1.15.1 The Proposed Project will follow the principles of the energy hierarchy with our energy management on site; reducing energy use, using efficient equipment and using low emission options.

1.15.2 As outlined above we will minimise lighting where possible, utilising sensors and minimum appropriate brightness. We will also be mindful of light as a nuisance for our neighbours.

Plant and Vehicles

1.15.3 All vehicles and plant on site will be in good-working order and regularly maintained to ensure optimum fuel efficiency and keep emissions to a minimum. This will also reduce the chance of fuel leaks.

- 1.15.4 Any hired vehicles and plant will be checked on delivery and not accepted if they are not in good working order for example, leaking and excessive fumes.
- 1.15.5 The construction works will be subject to defined core working hours with a restriction of Heavy Goods Vehicle (HGV) movements during the weekend unless exceptional circumstances dictate weekend working. This will be pre-agreed by the Principle Contractor with National Grid.
- 1.15.6 It is expected that some of the construction workforce would be residing locally and would therefore share car journeys to site, where possible.
- 1.15.7 Measures to reduce construction traffic have been considered as part of the Traffic Assessment within the Transport section of the EAR and form an objective of the Outline Construction Traffic Management Plan.
- 1.15.8 The measures above are expected to reduce the potential emissions associated with journeys to site.
- 1.15.9 National Grid has provided a Technical Note (dated 04.12.19) to Barnsley Council relating to potential effects on air quality within Langsett along the A616 which forms part of an Air Quality Management Area. This confirmed that all general construction HGV's from the east would use the alternative A628 route and not the A616 via Langsett. Therefore no general High Duty Vehicle (HDV) increases within Langsett of through the AQMA are anticipated. There will be approximately 48 cable drum movements (12 of which will be delivered as Abnormal Indivisible Load Movements (AIL)) during a three month period along the A616 via Langsett, which are not expected to exceed any of the thresholds outlined in the IAQM/EPUK guidance.

Waste

- 1.15.10 A Site Waste Management Plan (SWMP) will be produced for the construction works in line with best practice guidance for waste management on site, and including application of the waste hierarchy. The Contractor to will be referred to the Waste and Resources Action Programme guidance e.g. 'designing out waste for civil engineering projects' to be applied by the Contractor and used as a basis for producing a SWMP.
- 1.15.11 The SWMP will be in accordance with measures include the following:
- Demonstrate how the consumption of raw materials and generation of waste shall be minimised, through sound design and good practice in sustainable procurement and construction methods i.e. encourage the re-use of recycled or secondary resources;
 - There are potentially large volumes of aggregates that will be used and generated during works. National Grid have produced a guide to the sustainable use of Aggregates on National Grid Projects to assist in their target of using 30% secondary and recycled aggregates - . The Principal Contractor will include measures to increase reuse of any aggregates generated and maximise use of secondary or recycled aggregate.
 - Where waste is generated, show measures taken to reduce, re-use and recycle waste within the development, including the provision of on-site separation and

treatment facilities (using fixed or mobile plants where appropriate) to minimise disposal via landfill.

- National Grid has a target to achieve zero construction waste to landfill.

Replacement Tree Planting/Biodiversity Net Gain

- 1.15.12 A critical element of both the Zero 40 and Zero 45 strategies proposed under the Climate Change Emergency Declaration will be to increase the number of trees across the borough. It is proposed that trees lost during construction works will be replaced on a 2:1 basis, with a combination of planting both on site within the development area and off site through agreements with landowners. The number of trees estimated to be lost during construction is approximately 3900, with approximately 7800 trees proposed to be replaced for this purpose.
- 1.15.13 The additional 3900 trees being replanted represents the approximate equivalent of 39% of the trees that Barnsley Council are targeting to be planted within the borough during the first five years of Zero 40 under the Climate Change Emergency Declaration.
- 1.15.14 Beyond this 39%, additional areas are also being actively sought for potential planting to benefit willow tit which could result in a greater number of trees and a higher percentage.
- 1.15.15 Barnsley Local Plan Policy CC1 also refers to encouraging biodiversity gain. National Grid has committed to delivering 10% biodiversity net gain against the entire project and have used DEFRA Biodiversity Calculator to inform and develop our landscape and habitat enhancement actions designed to deliver our commitments.

1.16 Operation

Reducing Energy Demand

- 1.16.1 The scale of the Sealing End Compound (SEC) has been minimised as far as possible throughout the design process, as the main aim of the Proposed Project is to reduce the visual impact of the existing infrastructure. This also has benefits in the energy demand required, as the building footprint is kept to a minimum whilst also achieving its purpose of housing the equipment.
- 1.16.2 The Proposed Project is designed so that the SEC is unmanned during operation and will also contain equipment that can be monitored remotely, therefore only a small number of visits are required for maintenance purposes. As there is no day-to-day access to the SEC, energy associated with the maintenance of the Proposed Project is limited to infrequent site visits by National Grid staff.
- 1.16.3 It is highly likely that the new cable route will incur less line losses (energy lost from conductor) than the existing Overhead Line infrastructure would have lost. Therefore there is likely to be a smaller carbon impact of line losses for this section of our network in future.

Energy Efficiency

- 1.16.4 Lights installed at the SEC will be of the minimum brightness and/or power rating capable of performing the desired function. Light fittings will be selected that minimise the amount of light emitted above the horizontal.

1.17 Decommissioning

- 1.17.1 It is anticipated that the above National Grid standards, tools and practices would continue to be adhered to during the decommissioning phase.

1.18 Climate Change

- 1.18.1 The relevant aspects relating to climate change and carbon management outlined in Planning Policies CC1, CC2 (Barnsley Metropolitan Borough Council) and CC1 (Peak District National Park Authority) have been and will continue to be addressed at different points throughout the project design and are documented within various reports as part of the planning application for the Proposed Project. To ensure that this Carbon Management Statement is concise, relevant documents with further information have been signposted below and are available on both the Barnsley Metropolitan Borough Council and Peak District National Park Authority Council planning websites:

- **Ability of the environment to adapt to Climate Change** – This sits at the core of the Environmental Assessment Report and is split across the various chapters including Flood Risk, Landscape and Ecology, any impacts on receptors are mitigated as detailed within relevant sections of the report.
- **Flood Risk** – A Flood Risk Assessment has been produced (Appendix 9I of the Environmental Assessment Report)
- **SuDS** – A SuDS Strategy report has been produced for the Proposed Project (Appendix 9J of the Environmental Assessment Report)
- **Sustainable Design** – The Design and Access Statement outlines the approach taken to the design of the proposed project and the selection of materials
- **Agriculture and Land Use** – An appraisal of the impacts on land and agriculture has been addressed in the Environmental Appraisal Report Chapter 11
- **Tree planting and protection measures** – referenced within the Arboricultural Impact Assessment and Outline Landscape and Ecological Management Plan (Appendix 7M and 2B.3 of the Environmental Assessment Report)
- **Traffic** – An Outline Construction Traffic Management Plan has been produced which includes measures to reduce construction traffic. This will be developed further by the Principal Contractor (Appendix 2B.5 of the Environmental Assessment Report)
- **Biodiversity Net Gain** – An updated biodiversity net gain proposal will be submitted to Barnsley Metropolitan Borough Council and Peak District National Park Authority in April 2020, demonstrating how and where the 10% biodiversity net gain will be achieved.

1.19 Conclusion

This Carbon Management Statement sets out the measures that have been embedded into the design of the Proposed Project to ensure that energy efficiency and consumption have been considered throughout all phases, from options appraisal through to construction and operation, and will continue to do so during decommissioning. Emissions, waste and resources have also been considered and will continue to be managed throughout the phases of the Proposed Project.

Implementation of the OCEMP (to be updated to a final CEMP subject to grant of planning consent) is key to achieving the aims of the aforementioned policies. It is recognised that it is at the construction phase of the project where works require the most consumption of energy and production of carbon emissions during the project timeline. The OCEMP has been produced by National Grid and will be applied by the Principle Contractor.

Information related to the relevant elements of Policies CC1 and CC2 (Barnsley Metropolitan Borough Council) and CC1 (Peak District National Park Authority) has been addressed and / or signposted within this Carbon Management Statement and it is National Grid's understanding that the Proposed Project accords with these.

As well as replacing trees to be lost during construction, National Grid is proposing to plant the equivalent of at least 39% of the trees that Barnsley Metropolitan Borough Council is targeting within the borough during the first five years of Zero 40. This is alongside delivering a 10% biodiversity net gain. This also follows on from the provision of more than £250,000 of funding through National Grid's Warm Homes fund for the installation of new boilers and central heating to 123 homes within the Council area which has a beneficial climate change impact. All these additional aspects will greatly assist in contributing to the Council's key objectives and policies regarding carbon management, energy efficiency and climate change.