

A12 Chelmsford to A120 widening scheme

TR010060

7.1 Case for the Scheme Appendices B, C, D, E – NNNPS and Energy Accordance Tables

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Planning Act 2008

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A12 Chelmsford to A120 widening scheme
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7.1 Case for the Scheme
Appendices B, C, D, E – NNNPS and Energy Accordance Tables

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National Policy Statement for Energy July 2011

Introduction:

In order to construct the proposed scheme, the Cadent owned gas main named “The Witham South to Little Braxted Gas Governor High Pressure Gas Main (AIA2)” (hence forward gas main diversion) between Witham bypass and Little Braxted needs to be diverted (see the Case for the Scheme [TR0010060/APP/7.1]). As discussed in the Case for the Scheme (paragraphs 4.5 and 4.6), this diversion fulfils the criteria set out in section 20 of the Planning Act 2008 by which a gas pipeline qualifies as a Nationally Significant Infrastructure Project (NSIP) in its own right.

The gas main diversion, although an NSIP in its own right, is part of the proposed scheme (road widening) which requires an EIA. The Environmental Statement [TR010060/APP/6.1] has been prepared by competent experts to provide specified information to enable the Examining Authority, the Secretary of State and all stakeholders to understand the likely significant environmental effects of the proposed scheme including the gas main diversion. However, due to the scale and location of the gas main diversion, a separate EIA screening exercise was undertaken by the Applicant against the EIA Regulations, which can be found in Appendix 5.2 of the Environmental Statement [TR010060/APP/6.3]. The gas main diversion is also assessed in each topic chapter of the ES in conformity with the relevant adopted and draft Energy NPS. The ES [TR010060/APP/6.1] topic specific chapters have each a section dedicated to the gas main diversion and how the diversion was assessed, there is also the EIA screening exercise specific to the gas main. When referring to the topic specific ES chapter for the gas main diversion, this table refers to the gas main diversion as part of the proposed scheme. When referring to the gas main diversion on its own screening exercise then it is referred to as just gas main diversion.

The proposed scheme has been assessed against the National Policy Statement for National Networks (NPSNN), the Overarching National Policy Statement for Energy (EN-1) (Appendix B), the draft EN-1 (Appendix D) currently under consultation, and the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Appendix C), which also has a draft EN-4 (Appendix E) under consultation. Given that National Policy Statements conform to the same legislative requirements as the NPSNN, there is consistency between the policies set out in the NPSNN, EN-1, and draft EN-1 (Appendix D). As such, only criteria that are relevant to the gas pipeline diversion and not directly discussed in the preceding NPSNN accordance table are drawn out in the EN-1, draft EN-1, EN-4 and draft EN-4 tables below.

EN-1 sets out the government policy on energy related infrastructure, including the cross-energy NPS Assessment Principles and Generic Impacts which are reflected across the technology-specific NPSs. EN-4 should therefore be viewed in conjunction with EN-1, drawing out criteria specific to gas infrastructure and pipelines.

Where applicable, the tables serve as a signpost to the equivalent paragraphs of the NPSNN, the key points of which are considered in the NPSNN Accordance Table (Appendix A). Responses to the bespoke elements of NPS EN-1 and draft EN-1 and EN-4 that are relevant to the Cadent gas main diversion and do not have an equivalent NPSNN policy requirement are set out in the Accordance Table below.

Energy NPS (EN-1)

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
4.2.1 Environmental Statement	<p>All proposals for projects that are subject to the European Environmental Impact Assessment (EIA) Directive must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically refers to effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. The Directive requires an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects.</p>	<p>The gas main diversion is an ‘EIA development’ because it is of a type of development listed within schedule 2, regulation 3(1), part 3(b) (energy industry) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) and could generate significant environmental effects by virtue of its nature, scale and location.. The EIA screening exercise is documented in Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3].</p> <p>In accordance with paragraph 4.2.1 of EN-1 an EIA has been undertaken which describes and assesses the effects of the gas main diversion on humans, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage. The findings of the EIA are presented in the Environmental Statement (ES) for the proposed scheme [TR010060/APP/6.1]</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>which includes a description of the gas main diversion, the likely significant environmental effects, the measures to avoid, reduce, or offset such effects and the alternatives considered. Combined effects of the different aspects are reported within individual chapters of the ES in accordance with Chapter 5: Environmental Assessment Methodology [TR10060/APP/6.1].</p>
<p>4.2.2 ES - Social and Economic Effects</p>	<p>To consider the potential effects, including benefits, of a proposal for a project, the IPC will find it helpful if the applicant sets out information on the likely significant social and economic effects of the development, and shows how any likely significant negative effects would be avoided or mitigated. This information could include matters such as employment, equality, community cohesion and well-being.</p>	<p>The social and economic effects of the gas main diversion are assessed as part of Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] and in Appendix 13.4: Mental Wellbeing Impact Assessment [TR010060/APP/6.1]. The Equality Impact Assessment [TR010060/APP/7.5] discusses how the requirements of the Equality Act 2010 have been embedded in the scheme's development, including design, communication and engagement strategy, and mitigation strategies.</p>
<p>4.2.3 ES - Additional assessments</p>	<p>For the purposes of this NPS and the technology-specific NPSs the ES should cover the environmental, social and economic effects arising from pre-construction, construction, operation and decommissioning of the project.</p> <p>In some circumstances (for example, gas pipe-lines) it may be appropriate to assess effects arising from commissioning infrastructure once it is completed but before it comes into operation. Details of this and any other additional assessments are set out where</p>	<p>The social and economic effects of the gas main diversion are assessed as part of Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] which considers, construction and operational effects. It is highly unlikely that the gas main diversion would be decommissioned as the improvements would become an integral part of Cadent's gas network. In the unlikely event of the pipeline needing to be demolished, this would conform</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>necessary in sections on individual impacts in this NPS and in the technology-specific NPSs. In the absence of any additional information on additional assessments, the principles set out in this Section will apply to all assessments.</p>	<p>to the statutory process in place at that time, including any requirements for EIA as appropriate.</p>
<p>4.2.5 ES - Cumulative effects</p>	<p>When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence). The IPC may also have other evidence before it, for example from appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the IPC in reaching decisions on proposals and on mitigation measures that may be required.</p>	<p>The cumulative assessment can be found in Chapter 16: Cumulative Effects, of the ES [TR10060/APP/6.1]. It has been carried out in accordance with the Planning Inspectorate's Advice Note Seventeen: Cumulative Effects Assessment (published August 2019). The assessment sets out how the effects of the proposed scheme (which includes the gas main diversion) would combine and interact with the effects of other development projects, whether existing, awaiting consent, already consented or otherwise reasonably foreseeable.</p> <p>In addition, an assessment has been made of potential cumulative impacts from the proposed scheme (which includes the gas main diversion) on the socio-economic aspects of housing and access to services, facilities, employment, education, and skills. This assessment has been made in recognition that there are several nationally significant infrastructure projects in the region beyond the population and human health study area, which may contribute to potentially significant cumulative impacts for the proposed scheme. Chapter 16 also assesses the significance of cumulative effects for both the construction and operation phases of the</p>

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		proposed scheme (which includes the gas main diversion).
4.2.7 ES - Design Detail	<p>In some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.</p>	<p>The gas main diversion is part of a number of utilities being diverted by the respective statutory undertakers. These diversions are subject to feasibility studies and preliminary design carried out by the statutory undertakers, (as defined in the New Road and Street Works Act 1991). The gas main diversion currently has a draft scheme and budget estimate, this has formed the basis of the information presented in this application.</p> <p>As part of the development of the proposed scheme the Applicant carried out a gas main diversion screening assessment available at Appendix 5.2 of the ES [TR010060/APP/6.3] where an initial desk assessment of the possible environmental effects is captured. The Case for the Scheme (CftS) [TR010060/APP/7.1] includes a gas main diversion statement which explains the characteristics of the pipeline, the need for its diversion and work done to identify possible routes. This section also contains details of the diverted pipeline in accordance with regulation 6(4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.</p> <p>The draft DCO [TR010060/APP/3.1] provides the limits of deviation both laterally and</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>vertically. These limits have been included in the proposed scheme in order to allow a necessary, but proportionate, degree of flexibility to facilitate the detailed design and construction stages of the proposed scheme. The limits of deviation have been considered when undertaking all technical assessments, including those specific to the gas main diversion, in relation to the proposed scheme.</p> <p>Chapter 5: Environmental assessment methodology, of the ES [TR010060/APP/6.1] sets out the assessment methodology and approach taken to prepare the EIA. Chapter 5 also includes details of how the proposed scheme has been assessed where information was not available to inform the assessment. In addition, each of the aspect chapters gives a description of the assumptions made and the limitations of the assessment in relation to the scheme as a whole and the gas main diversion.</p>
4.2.8 ES - Impacts	Where some details are still to be finalised the ES should set out, to the best of the applicant's knowledge, what the maximum extent of the proposed development may be in terms of site and plant specifications, and assess, on that basis, the effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed.	<p>The location and Order Limits of the proposed scheme are illustrated on Figure 1.1: Location Plan [TR010060/APP/6.2]. Limits of deviation have been incorporated within the Order Limits to allow minor modifications to be made to the proposed scheme during the detailed design and construction stages.</p> <p>The ES [TR010060/APP/6.1] approach is to provide an assessment of the proposed scheme design based on the realistic worst-case</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>scenario afforded by the limits of deviation to be sought within the DCO application. This is therefore the maximum possible extent of the proposed scheme and as such has been assessed within the ES. The EIA screening exercise documented in Appendix 5.2 of the ES [TR010060/APP/6.3] provides a desk based study of the area where the proposed gas main diversion is to be installed, reporting on possible significant effects on the environment.</p>
<p>4.3.1 Habitats and Species Regulations</p>	<p>Prior to granting a development consent order, the IPC must, under the Habitats and Species Regulations, (which implement the relevant parts of the Habitats Directive and the Birds Directive in England and Wales) consider whether the project may have a significant effect on a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects. Further information on the requirements of the Habitats and Species Regulations can be found in a Government Circular. Applicants should also refer to Section 5.3 of this NPS on biodiversity and geological conservation. The applicant should seek the advice of Natural England and/or the Countryside Council for Wales, and provide the IPC with such information as it may reasonably require to determine whether an Appropriate Assessment is required. In the event that an Appropriate Assessment is required, the applicant must provide the IPC with such information as may reasonably be required to enable it to conduct the Appropriate Assessment. This should include</p>	<p>Section 9.8 of Chapter 9: Biodiversity, of the ES[TR010060/APP/6.1] identifies the sites designated under the Habitats and Species Regulations which could be impacted by the proposed scheme.</p> <p>Section 9.11 of Chapter 9 and Appendix 9.8: Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.3] describes the potential for likely significant effects on internationally, nationally and locally designated sites of ecological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity.</p> <p>The Applicant has sought the advice of Natural England throughout the development of the proposed scheme. A Stage 1 Screening Assessment concluded that no likely significant effects on any sites within the National Site</p>

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	<p>information on any mitigation measures that are proposed to minimise or avoid likely effects.</p>	<p>Network are anticipated when considered alone or in combination with other plans and projects. The response received from Natural England is contained in Appendix D of the Habitats Regulation Assessment No Significant Effects Report [TR010060/APP/6.8] which states that they are in agreement with the assessment.</p> <p>Given that no likely significant effects were identified to any internationally significant sites, an Appropriate Assessment was not required.</p>
<p>4.4.1 - 4.4.2 Alternatives</p>	<p>As in any planning case, the relevance or otherwise to the decision making process of the existence (or alleged existence) of alternatives to the proposed development is in the first instance a matter of law, detailed guidance on which falls outside the scope of this NPS. From a policy perspective this NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option.</p> <p>However:</p> <p>Applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility.</p> <p>In some circumstances there are specific legislative requirements, notably under the Habitats Directive, for</p>	<p>Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1] sets out in Table 3.5 the main alternatives for the gas main diversion, considered by the Applicant and how the preferred option was determined through consideration of environmental effects. This is in line with the requirements of the EIA Directive. The Consultation Report [TR010060/APP/5.1] also sets out the options that the public were consulted on.</p> <p>A Detailed Water Environment Regulations Compliance Assessment (WFD) has been carried out and is presented in Appendix 14.2 [TR010060/APP/6.3]. It shows compliance for all designated water bodies assessed therefore no consideration of WFD alternatives is required.</p> <p>A Habitats Regulations Directive (HRA) assessment has been carried out and is presented in Appendix 6.8 Habitats Regulations</p>

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	<p>the IPC to consider alternatives. These should also be identified in the ES by the applicant.</p> <p>In some circumstances, the relevant energy NPSs may impose a policy requirement to consider alternatives (as this NPS does in Sections 5.3, 5.7 and 5.9).</p>	<p>Assessment No Significant Effects Report [TR010060/APP/6.9]. It concludes that no likely significant effects on any sites within the national site network are anticipated, when considered alone or in combination with other plans or projects. Therefore, no consideration of alternatives is required.</p> <p>A flood risk sequential test has been carried out and is reported within Appendix 14.5: Flood Risk Assessment (FRA) [TR010060/APP/6.3]. Subsequently an exception test was required, the results of which show that the proposed scheme passes the requirements of the test.</p> <p>The proposed scheme is not located within or near any National Park, The Broads or any Area of Outstanding Natural Beauty (AONB). Therefore, no alternatives assessment relating to these features is required.</p> <p>The proposed scheme is identified in both RIS1 (2015-2020) and RIS 2 (2020-2025). Therefore, option-testing does not need to be considered by the Examining Authority or the decision maker as this assessment has already been undertaken.</p> <p>Design options considered and appraised as part of the proposed scheme's development process are presented in Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1) and Section 3.2 of the</p>

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		<p>CftS [TR010060/APP/7.1]. The main development stages included:</p> <p>Initial options identification, assessment and sifting.</p> <p>Options development and shortlisting.</p> <p>Assessment of shortlisted options to identify viable options for consultation.</p> <p>Consultation and option selection.</p> <p>Preferred Route Announcement (PRA).</p> <p>Design development for statutory consultation.</p> <p>Continued design development post statutory consultation.</p>
4.5.3 Good Design	<p>Criteria for “good design” for energy infrastructure</p> <p>[...] the IPC needs to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be. In so doing, the IPC should satisfy itself that the applicant has taken into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located) as far as possible. Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting</p>	<p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] sets out the likely significant effects identified along the preferred diversion corridor.</p> <p>The proposed scheme also carried out a supplementary consultation (Annex N [TR010060/APP/5.2]) where five feasible corridors were presented to members of the local community and stakeholders for comment.</p> <p>The CftS [TR010060/APP/7.1] sets out how the proposed scheme’s design evolved, whilst Chapter 3: Assessment of alternatives, of the ES[TR010060/APP/6.1] describes the other options considered.</p>

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	<p>relative to existing landscape character, landform and vegetation.</p>	<p>The results of the Applicant's formal assessment, together with accumulated local knowledge and responses from the consultation exercise were passed on to Cadent to inform their ongoing draft scheme which is still in the earlier stages of design.</p> <p>In terms of functionality, the Applicant's choice of preferred corridor takes into account the physical and environmental constraints of the area and the proximity of an existing gas pipeline. The working width for the diverted pipeline corridor would be reduced as far as reasonably practicable through woodland and where the gas main diversion crosses hedgerow field boundaries. All main river crossing(s) would be installed using trenchless techniques, such as horizontal drilling. Directional drilling would be considered where practicable.</p> <p>Consideration of aesthetics and good design would consist of replanting along the easement of the gas main diversion and would be carried out in accordance with Cadent Gas guidance and best practice standards. Where woodland vegetation would be lost and trees could not be replaced in situ due to the restrictions of the pipeline easement, native shrub planting would be used in line with that guidance. Where tree lines and tree belts would be lost and could not be replaced due to the restrictions of pipeline</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		easement, native hedgerow planting would be used in line with the guidance.
4.6 Consideration of combined heat and power (CHP)	<p>Consideration of combined heat and power (CHP)</p> <p>4.6.1 Combined Heat and Power (CHP) is the generation of usable heat and electricity in a single process. A CHP station may either supply steam direct to customers or capture waste heat for low-pressure steam, hot water or space heating purposes after it has been used to drive electricity generating turbines. The heat can also be used to drive absorption chillers, thereby providing cooling.</p>	This section relates to new energy infrastructure and thus is not relevant to the gas main diversion or the proposed scheme.
4.7 Carbon capture and storage (CCS) and carbon capture readiness (CCR)	<p>4.7.1 Carbon Capture and Storage (CCS) is an emerging technology that enables carbon dioxide that would otherwise be released to the atmosphere to be captured and permanently stored. It can be applied to any large point source of carbon dioxide, such as fossil fuel power stations or other industrial processes that are high emitters. Carbon capture technologies are able to remove up to 90% of the carbon dioxide that would otherwise be released to the atmosphere and offers the opportunity for fossil fuels to continue to be an important element of a secure and diverse low carbon energy mix.</p>	This section relates to new energy infrastructure and thus is not relevant to the gas main diversion or the proposed scheme.
4.8. Climate change adaptation	<p>4.8.5 New energy infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure. The ES</p>	This section refers to new energy infrastructure and is thus of limited relevance to the gas main diversion or the proposed scheme. Although the gas main diversion will be a new pipeline, it is a like for like replacement. However, for completeness of the response, the design has been developed taking into account the

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>should set out how the proposal will take account of the projected impacts of climate change. While not required by the EIA Directive, this information will be needed by the IPC.</p>	<p>potential implications of climate change such as resilience to flooding and high temperatures. As the pipeline is installed underground it will not increase flood risk but also being underground is protected from flooding events.</p> <p>The EIA process has considered the effects of possible future changes in climate over a 60-year appraisal period and potential impacts of these climatic changes have been assessed in Chapter 15: Climate, of the ES [TR010060/APP/6.3].</p> <p>The drainage design has been developed taking into account future potential increases in flooding, whilst the impacts have been considered in Appendix 14.5: FRA [TR010060/APP/6.3]. The guidance on climate change allowances has been used (Environment Agency (2021) Flood risk assessments: climate change allowances). Mitigation measures with regards to climate change are secured in the Register of Environmental Actions and Commitments (REAC) within the first iteration of the Environmental Management Plan (EMP) [TR010060/APP/6.5].</p>
4.9 Grid connection	<p>4.9.1 The connection of a proposed electricity generation plant to the electricity network is an important consideration for applicants wanting to construct or extend generation plant. In the market system, it is for the applicant to ensure that there will be necessary infrastructure and capacity within an existing</p>	<p>This section relates to new energy infrastructure and thus is not relevant to the gas main diversion or the proposed scheme.</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>or planned transmission or distribution network to accommodate the electricity generated. The applicant will liaise with National Grid who own and manage the transmission network in England and Wales or the relevant regional Distribution Network Operator (DNO) to secure a grid connection. It may be the case that the applicant has not received or accepted a formal offer of a grid connection from the relevant network operator at the time of the application, although it is likely to have applied for one and discussed it with them. This is a commercial risk the applicant may wish to take for a variety of reasons, although the IPC will want to be satisfied that there is no obvious reason why a grid connection would not be possible.</p>	
<p>4.10 Pollution and other environmental regulatory features</p>	<p>4.10.7 The IPC should be satisfied that development consent can be granted taking full account of environmental impacts. Working in close cooperation with EA and/or the pollution control authority, and other relevant bodies, such as the MMO, Natural England, the Countryside Council for Wales, Drainage Boards, and water and sewerage undertakers, the IPC should be satisfied, before consenting any potentially polluting developments, that:</p> <p>the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and</p> <p>the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the proposed development is added</p>	<p>The impacts of the gas main diversion are considered throughout the ES [TR010060/APP/6.1]. The first iteration of the EMP [TR010060/APP/6.5] outlines the control of processes, emissions and discharges through the construction process.</p> <p>Liaison is ongoing with the Environment Agency, Essex County Council and Natural England to ensure that they are satisfied with good practice measures currently in place in the REAC within the EMP [TR010060/APP/6.5], the Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.8] and the Appendices associated with Chapter 9: Biodiversity and Chapter 14 Road drainage and</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	would make that development unacceptable, particularly in relation to statutory environmental quality limits	<p>the water environment of the ES [TR010060/APP/6.1].</p> <p>Chapter 16: Cumulative effects, of the ES [TR010060/APP/6.1] assesses that no cumulative effects arising in relation to pollution as a result of nearby planned developments are predicted.</p>
4.11 Safety	<p>4.11.4 Applicants seeking to develop infrastructure subject to the COMAH regulations should make early contact with the Competent Authority. If a safety report is required it is important to discuss with the Competent Authority the type of information that should be provided at the design and development stage, and what form this should take. This will enable the Competent Authority to review as much information as possible before construction begins, in order to assess whether the inherent features of the design are sufficient to prevent, control and mitigate major accidents. The IPC should be satisfied that an assessment has been done where required and that the Competent Authority has assessed that it meets the safety objectives described above.</p>	<p>There will be no natural gas storage associated with the gas main diversion works of the existing gas main and therefore it is considered that the COMAH Regulations 2015 do not apply.</p> <p>The diversion work will be carried out in accordance with all relevant health and safety legislation.</p>
4.12 Hazardous substances	<p>4.12.1 All establishments wishing to hold stocks of certain hazardous substances above a threshold need Hazardous Substances consent. Applicants should consult the HSE at pre-application stage if the project is likely to need hazardous substances consent. Where hazardous substances consent is applied for, the IPC will consider whether to make an order directing that hazardous substances consent shall be deemed to be</p>	<p>This section refers to the storage of hazardous substances and so is not relevant to the proposed scheme or gas main diversion.</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>granted alongside making an order granting development consent. The IPC should consult HSE about this.</p>	
<p>4.13 Health</p>	<p>4.13.2 As described in the relevant sections of this NPS and in the technology-specific NPSs, where the proposed project has an effect on human beings, the ES should assess these effects for each element of the project, identifying any adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate. The impacts of more than one development may affect people simultaneously, so the applicant and the IPC should consider the cumulative impact on health.</p>	<p>The cumulative impacts of the proposed scheme (which includes the gas main diversion) on health have been assessed in Chapter 16: Cumulative Effects, of the ES [TR10060/APP/6.1]. This has been informed by Chapter 13: Population and human health, of the ES [TR010060/APP/6.1].</p>
<p>4.14 Common Law and statutory nuisance</p>	<p>4.14.2 It is very important that, at the application stage of an energy NSIP, possible sources of nuisance under section 79(1) of the 1990 Act and how they may be mitigated or limited are considered by the IPC so that appropriate requirements can be included in any subsequent order granting development consent. (See Section 5.6 on Dust, odour, artificial light etc. and Section 5.11 on Noise and vibration.)</p>	<p>For the diverted length of the gas main sources of nuisance may occur during construction. The proposed scheme has prepared a number of mitigation measures as listed in the REAC, which is part of the first iteration of the EMP [TR010060/APP/6.5] for the diverted length of the gas main diversion.</p> <p>The EMP also include measures to reduce noise, dust, odour and artificial light during the pipeline construction period. Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] sets out the likely significant effects identified along the preferred diversion corridor, which reported no significant effect on air quality. In respect of emissions of odour and artificial light, these are not addressed in the ES as the proposed scheme</p>

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		would not result in any of these emissions that would require an assessment.
4.15 Security considerations	<p>4.15.3 DECC will be notified at pre-application stage about every likely future application for energy NSIPs, so that any national security implications can be identified. Where national security implications have been identified, the applicant should consult with relevant security experts from CPNI, OCNS and DECC to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks. If CPNI, OCNS and/or DECC are satisfied that security issues have been adequately addressed in the project when the application is submitted to the IPC, it will provide confirmation of this to the IPC. The IPC should not need to give any further consideration to the details of the security measures in its examination.</p>	No national security considerations have been identified for the gas main diversion.
5.2 Air quality and emissions	<p>5.2.6 and 5.2.7 Where the project is likely to have adverse effects on air quality the applicant should undertake an assessment of the impacts of the proposed project as part of the Environmental Statement (ES).</p> <p>The ES should describe:</p> <p>any significant air emissions, their mitigation and any residual effects distinguishing between the project stages and taking account of any significant emissions from any road traffic generated by the project;</p>	<p>Baseline air quality conditions are described in Section 6.8 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1] and Appendix 6.1: Air quality monitoring results [TR010060/APP/6.3].</p> <p>Modelled air pollutant concentrations in the opening year (2027) DM and DS scenarios are presented and discussed in Section 6.9 of Chapter 6 and Appendix 6.5: Air quality results [TR010060/APP/6.3].</p> <p>Potential impacts, mitigation measures and the significance of residual effects, during both the</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>the predicted absolute emission levels of the proposed project, after mitigation methods have been applied;</p> <p>existing air quality levels and the relative change in air quality from existing levels; and</p> <p>any potential eutrophication impacts.</p>	<p>construction and operational stage of the proposed scheme, are presented and discussed in sections 6.9, 6.10 and 6.11 of Chapter 6 respectively.</p> <p>Eutrophication is not relevant to the gas main diversion. Appendix 5.2: Gas ain diversion screening assessment [TR010060/APP/6.3] sets out the likely significant effects identified along the preferred diversion corridor, which reported no significant effect on air quality.</p>
<p>5.3 Biodiversity and ecological conservation</p>	<p>5.3.7 and 5.3.8 As a general principle, and subject to the specific policies below, development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives (as set out in Section 4.4 above); where significant harm cannot be avoided, then appropriate compensation measures should be sought.</p> <p>In taking decisions, the IPC should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment.</p>	<p>Design changes have been implemented where practicable to avoid impacts to ecological receptors. These are discussed within Section 9.10 of Chapter 9: Biodiversity and Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1]. Furthermore, the approach of maximising biodiversity delivery is being applied to the proposed scheme as discussed in Section 9.13 of Chapter 9 and Appendix 9.14: Biodiversity Net Gain report [TR010060/APP/6.3].</p> <p>The single geological SSSI has been scoped out of Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1]</p> <p>].</p> <p>Sections 9.9 to 9.11 of Chapter 9: Biodiversity, and Sections 10.9 to 10.11 of Chapter 10: Geology and Soils, of the ES [TR010060/APP/6.1] detail impacts, mitigation</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		and significant effects to ecological receptors such that the Secretary of State can be informed in the decision-making process. The first iteration of the EMP [TR010060/APP/6.5] includes all mitigation measures from the chapters.
5.4 Civil and military aviation and defence interests	5.4.1 Civil and military aerodromes, aviation technical sites, and other types of defence interests (both onshore and offshore) can be affected by new energy development.	This section refers to civil and military aviation and other defence interests and as such is not relevant to the gas main diversion or the proposed scheme.
5.5 Coastal change	<p>5.5.1 The Government’s aim is to ensure that our coastal communities continue to prosper and adapt to coastal change. This means planning should:</p> <ul style="list-style-type: none"> ensure that policies and decisions in coastal areas are based on an understanding of coastal change over time; prevent new development from being put at risk from coastal change by avoiding inappropriate development in areas that are vulnerable to coastal change or any development that adds to the impacts of physical changes to the coast, and directing development away from areas vulnerable to coastal change; ensure that the risk to development which is, exceptionally, necessary in coastal change areas because it requires a coastal location and provides substantial economic and social benefits to communities, is managed over its planned lifetime; and 	This section refers to coastal change and as such is not relevant to the gas main diversion or the proposed scheme.

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	<p>ensure that plans are in place to secure the long term sustainability of coastal areas.</p>	
<p>5.6 Dust, odour, artificial light, smoke, steam and insect infestation</p>	<p>5.6.4 and 5.6.5 The applicant should assess the potential for insect infestation and emissions of odour, dust, steam, smoke and artificial light to have a detrimental impact on amenity, as part of the Environmental Statement.</p> <p>In particular, the assessment provided by the applicant should describe:</p> <ul style="list-style-type: none"> the type, quantity and timing of emissions; aspects of the development which may give rise to emissions; premises or locations that may be affected by the emissions; effects of the emission on identified premises or locations; and measures to be employed in preventing or mitigating the emissions. 	<p>A gas main diversion screening assessment Appendix 5.2 of the ES [TR010060/APP/6.3] was prepared and no likely significant environmental effects were identified on Air Quality, Noise and Vibration, or Geology and Soils.</p> <p>As discussed in Chapter 6: Air quality, of the ES [TR010060/APP/6.1] there is the potential for dust effects during the construction phase at sensitive receptors within the distance bands outlined in the DMRB LA 105. These are shown on Figure 6.4: Air quality construction dust assessment [TR010060/APP/6.2]. The level and distribution of construction dust emissions will depend on where within the Order Limits the dust raising activity takes place, the nature of the activity and controls, and weather conditions. Chapter 6 also shows the number of receptors within the distance bands outlined in the DMRB LA 105. Based on the number of receptors within the distance bands and the large potential for dust emissions to occur, the construction dust risk is considered to be 'high'. This is in accordance with DMRB LA 105 Tables 2.58a and 2.58b. As outlined in the methodology, standard mitigation measures in line with this level of risk have been detailed</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>within the first iteration of the EMP [TR010060/APP/6.5].</p> <p>In terms of the proposed scheme’s impact on artificial light, the landscape and visual impact assessment in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers the significance of effect of both day and night-time changes for landscape and visual receptors in line with the requirements of DMRB LA 107. The assessment considers the effects of construction lighting, highway lighting and vehicle lights, and identifies the potential for temporary lighting to have an impact. This will be mitigated by the use of sensitive lighting design as outlined in Section 8.10 of Chapter 8.</p> <p>In respect of emissions of odour, smoke, steam and insect infestation; these are not addressed in the ES as they are not affected by the gas main diversion.</p>
5.7 Flood risk	5.7.4 Applications for energy projects of 1 hectare or greater in Flood Zone 1 in England or Zone A in Wales and all proposals for energy projects located in Flood Zones 2 and 3 in England or Zones B and C in Wales should be accompanied by a flood risk assessment (FRA). An FRA will also be required where an energy project less than 1 hectare may be subject to sources of flooding other than rivers and the sea (for example surface water), or where the EA, Internal Drainage Board or other body have indicated that there may be drainage problems. This should identify and assess the	Appendix 14.5: FRA [TR010060/APP/6.3] assesses the impact to and from the gas main diversion and the proposed scheme on all sources of flood risk and commits to mitigation. The FRA does not separately assess the flood risk of the gas main division in isolation, but rather assess the impact on both the road element of the proposed scheme and the gas main diversion together. This is as detailed within Chapter 14: Road drainage and water environment, of the ES [TR010060/APP/6.1]

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.</p>	<p>and mitigation measures are included in REAC within the first iteration of the EMP [TR010060/APP/6.5]. The mitigation would ensure that together the gas main diversion and the proposed scheme do not increase flood risk and are safe for their respective lifetimes including the predicted impact of climate change.</p>
<p>5.8 Historic environment</p>	<p>5.8.9 Where a development site includes, or the available evidence suggests it as the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact.</p>	<p>An assessment has been undertaken to identify likely significant heritage impacts from the proposed scheme and appropriate mitigation measures. The methodology and findings of the assessment are presented in Chapter 7: Cultural Heritage, of the ES [TR010060/APP/6.1]. Non-designated cultural heritage assets have been identified through desk-based studies in Appendix 7.1: Cultural Heritage Gazetteer, Appendix 7.2: Cultural Heritage Desk Based Assessment, Appendix 7.3: Palaeolithic Desk Based Assessment and Appendix 7.4: Aerial Investigation and Mapping Report [TR010060/APP/6.3], supplemented by a programme of non-intrusive and intrusive field evaluation reported in Appendices 7.5 and 7.6: Geophysical Survey Phase 1 and 2, and 7.7: Archaeological Trial Trenching Report [TR010060/APP/6.3]. Consultation has also been carried out with Historic England to gain their views and guidance. The gas main diversion will not have a direct impact on any Scheduled Ancient Monuments, but has the</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		potential to remove remains associated with one non-designated archaeological site (Asset 349).
5.9 Landscape and visual	<p>5.9.6 The applicant’s assessment should include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character.</p> <p>5.9.7 The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on local amenity, and nature conservation.</p>	<p>Section 8.11 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers likely significant landscape effects during both construction and operation. In line with DMRB LA107, the effect on the constituent landscape features and elements/components of the LCAs have been considered in combination as part of the effects on landscape character and not as individual receptors.</p> <p>Section 8.11 within Chapter 8: Landscape and visual, of ES [TR010060/APP/6.1] considers likely significant visual effects during both construction and operation. In accordance with DMRB LA107, aesthetic and perceptual qualities, including effects on dark skies and tranquillity, are included within the assessment of landscape effects. Both day and night-time changes for landscape and visual receptors are considered. Effects relating to noise are included within Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1]. Effects relating to nature conservation are included within Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1].</p> <p>The qualitative assessment in Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] shows that one aspect is</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>likely to give rise to likely significant effects as a result of the gas main diversion; landscape and visual. This is due to the loss of trees and woodland, which would impact the landscape character of the River Blackwater valley, open up views across the Blackwater River Valley towards the A12, and result in loss of lowland mixed deciduous woodland habitat. There would be permanent loss of willow plantation west of the River Blackwater, which is a distinctive characteristic feature of this landscape. It would not be appropriate to plant vegetation other than that permitted within Cadent’s standards and specifications: large trees are generally excluded from planting within the pipeline easement.</p>
<p>5.10 Land use including open space, green infrastructure and green belt</p>	<p>5.10 6 Applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.</p>	<p>The gas main diversion, including potential impacts of construction, have been subject to public consultation. See the Consultation report [TR010060/APP/5.1] for further detail.</p> <p>Existing and proposed land uses and detail of relevant planning history relating to developments within and adjacent to the Order Limits are within the CfS [TR010060/APP/7.1]. The existing conditions within the Scheme Order Limits and surrounding area are also reported in Chapters 6-15, of the ES[TR010060/APP/6.1]. There are no areas of greenbelt in or around the Order Limits, and no sports and recreation buildings included within the Order Limits. Loss of open space has been</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>assessed and is discussed in Chapter 13: Population and human health of the ES [TR010060/APP/6.1] with further detail provided in Appendix 13.3: Detailed land use and accessibility assessment tables [TR010060/APP/6.3]. Any loss of such community assets would be replaced by equivalent or improved provision.</p> <p>The Statement of Reasons [TR010060/APP/4.1] also provides detail of land that is proposed to be acquired and brings reference in Section 7.2 to special category land forming part of open space that would be acquired for the delivery of the proposed scheme.</p>
5.11 Noise and vibration	<p>5.11.4 Where noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment:</p> <p>a description of the noise generating aspects of the development proposal leading to noise impacts, including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise;</p> <p>identification of noise sensitive premises and noise sensitive areas that may be affected;</p> <p>the characteristics of the existing noise environment;</p> <p>a prediction of how the noise environment will change with the proposed development;</p>	<p>A description of the existing situation is contained within Section 12.8 of Chapter 12: Noise and Vibration, of the ES [TR010060/APP/6.1]. The noise sources from the proposed scheme are described within Section 12.9 of Chapter 12..</p> <p>The noise sensitive premises are identified within Section 12.8 of Chapter 12 and are shown on Figure 12.2: Noise sensitive Receptors [TR010060/APP/6.2].</p> <p>The characteristics of the existing noise environment are described within Section 12.8 of Chapter 12 and within Appendix 12.3: Noise Baseline Survey Results [TR010060/APP/6.3].</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
	<p>in the shorter term such as during the construction period;</p> <p>in the longer term during the operating life of the infrastructure;</p>	<p>The prediction of how the noise environment would change and the assessment of effects from this change is provided within Sections 12.9 and 12.11 of Chapter 12. This includes during the construction and operation phase.</p> <p>Mitigation measures are described in Section 12.10 of Chapter 12.</p> <p>The noise assessment presented in Chapter 12 is considered to be proportionate to the scale of the proposed scheme.</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] has not identified any likely significant noise and vibration effects as a result of the proposed gas main diversion.</p>
5.12 Socio-economic	5.12.2 Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES (see Section 4.2).	A business case has been prepared for the proposed scheme in line with the Treasury Green Book Principles and Department for Transport TAG guidance. The results gathered for the Economics Case are presented in The Economic Appraisal Package Report, submitted as Appendix D to the Combined Modelling and Appraisal Report (ComMA) [TR10060/APP/7.3], which demonstrates that economic appraisal of the proposed scheme has been prepared in accordance with the 'Green Book' - Appraisal and Evaluation in Central Government and explains that the appraisal covers the economic, environmental and social impacts of

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>the proposed scheme. It concludes that, taking account of the wider impacts of the proposed scheme and journey time reliability benefits, the proposed scheme will deliver an adjusted benefit cost ratio (BCR) of 1.7. This means that for every £1 spent on the proposed scheme there will be around £1.70 returned to society in benefits.</p> <p>In addition, an assessment has been made of potential cumulative impacts from the proposed scheme on the socio-economic aspects of housing and access to services, facilities, employment, education, and skills. This assessment has been made in recognition that there are several nationally significant infrastructure projects in the region beyond the population and human health study area, which may contribute to potentially significant cumulative impacts for the proposed scheme. Chapter 16: Cumulative effects, of the ES [TR010060/APP/6.1] assesses the significance of cumulative effects for both the construction and operation phases of the proposed scheme.</p>
5.13 Traffic and transport	5.13.3 Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts.	The] Design and Access Statement (DAS) [TR010060/APP/7.4] provides an overview of the existing and proposed WCH network, and the mitigation put forward to ensure routes are preserved and enhanced. Further details for the WCH can be found on the Street, Rights of Way and Access Plan [TR010060/APP/2.6]. The temporary diversions and closures and a travel

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		<p>plan for users and workers are shown on the Outline Construction Traffic Management Plan (OCTMP) [TR010060/APP/7.7] and these provide the mitigation measures as listed in the REAC, part of the first iteration of the EMP [TR010060/APP/6.5] in order to ensure routes remain open or are diverted.</p>
<p>5.14 Waste management</p>	<p>5.14.6 The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a Site Waste Management Plan. The arrangements described and Management Plan should include information on the proposed waste recovery and disposal system for all waste generated by the development, and an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.</p>	<p>Chapter 11: Material assets and waste, of the ES [TR010060/APP/6.1] sets out how waste will be managed during construction and operation. It also details how the design of the proposed scheme would be built to reduce the consumption and disposal of waste and where practicable, the design of the proposed scheme would work towards the ambition of zero avoidable waste in construction. The proposed scheme would aim to maximise its use of recycled materials for construction where feasible.</p> <p>An outline Site Waste Management Plan (SWMP) has been prepared as part of the first iteration of the EMP [TR010060/APP/6.5] to plan, implement, monitor and review waste reduction and management throughout design and construction. The SWMP is a live document, updated at varying points during design and construction. It will be used to quantify waste arisings and facilitate the identification and implementation of waste prevention at the detailed design stage, and the reuse, recycling and other recovery</p>

EN-1 Paragraph/ Section	Relevant NPS EN-1 text/summary	Compliance with the Energy NPS
		opportunities during the construction stage. The waste hierarchy will be followed as a priority to achieve the best overall environmental outcome, and limit waste generation and disposal to landfill in line with the prevailing national policy targets.
5.15 Water quality and resources	5.15.2 Where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment as part of the ES or equivalent. (See Section 4.2.)	Water quality and impacts of the gas main diversion upon them are described within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and Appendix 14.1: Water Quality Assessment [TR010060/APP/6.3]. Issues relating to the Water Framework Directive are addressed within Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment [TR010060/APP/6.3]. Groundwater issues are further discussed within Appendix 14.4: Groundwater Assessment [TR010060/APP/6.3].

National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)

National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
2.2 Climate change adaptation	<p>2.2.2 As climate change is likely to increase risks to some of this infrastructure, from flooding or rising sea levels for example, applicants should in particular set out how the proposal would be resilient to:</p> <ul style="list-style-type: none"> increased risk of flooding; effects of rising sea levels and increased risk of storm surge; higher temperatures; increased risk of earth movement or subsidence from increased risk of flooding and drought; and any other increased risks identified in the applicant’s assessment. 	<p>The design of the scheme as a whole and of the gas main diversion in particular have been developed taking into account the potential implications of climate change such as resilience to flooding and high temperatures.</p> <p>The EIA process has considered the effects of possible future changes in climate over a 60-year appraisal period and potential impacts of these climatic changes have been assessed in Chapter 15: Climate, of the Environmental Statement (ES) [TR010060/APP/6.3].</p> <p>The drainage design has been developed taking into account future potential increases in flooding, whilst the impacts have been considered in Appendix 14.5: Flood Risk Assessment (FRA) [TR010060/APP/6.3]. The guidance on climate change allowances has been used (Environment Agency (2021) Flood risk assessments: climate change allowances). Given the timing of the revised guidance being published, it has not been possible to incorporate the Environment Agency’s guidance on climate change allowance from 20% to 25% into the relevant DCO application documents. However, it is proposed that the guidance will be considered post-submission (and ideally pre-examination), by way of a</p>

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
		<p>sensitivity test that will report the implications of the new guidance on the assessments undertaken to date.</p> <p>Mitigation measures with regards to climate change are secured in the Register of Environmental Actions and Commitments (REAC) within the first iteration of the Environmental Management Plan (EMP) [TR010060/APP/6.5].</p>
<p>2.3 Consideration of good design</p>	<p>2.3.1 Section 4.5 of EN-1 sets out the principles for good design that should be applied to all energy infrastructure.</p> <p>2.3.2 For the reasons given there, applicants should demonstrate good design, in particular where mitigating the impacts relevant to the infrastructure.</p>	<p>The gas main diversion is part of a number of utilities being diverted by the respective statutory undertakers. These diversions are subject to feasibility studies and preliminary design carried out by the statutory undertakers, (as defined in the New Road and Street Works Act 1991). The gas main diversion currently has a draft scheme and budget estimate, this has formed the basis of the information presented in this application.</p> <p>As part of the development of the proposed scheme the Applicant carried out a Gas Main Screening Report available at Appendix 5.2 of the ES [TR010060/APP/6.3] where an initial desk assessment of the possible environmental effects is captured. The Case for the Scheme (CfS) [TR010060/APP/7.1] includes a gas main diversion statement which explains the characteristics of the pipeline, the need for its diversion and work done to identify possible routes. This section also contains details of the diverted pipeline in accordance with regulation 6(4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.</p>

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
		Chapter 5: Environmental assessment methodology of the ES [TR010060/APP/6.1] sets out the assessment methodology and approach taken to prepare the EIA. Chapter 5 also includes details of how the proposed scheme has been assessed where information was not available to inform the assessment. In addition, each of the topic chapters of the ES gives a description of the assumptions made and the limitations of the assessment in relation to the scheme as a whole and the gas main diversion.
2.4	Hazardous substances	This section is not relevant to the gas main diversion or the proposed scheme.
2.5	Control of Major Accident Hazards	This section is not relevant to the gas main diversion or the proposed scheme.
2.6	Borehole sites	This section is not relevant to the gas main diversion or the proposed scheme.
2.7 to 2.18	Underground Natural Gas Storage, Liquefied Natural Gas Import Facilities and Gas Reception Facilities	This section is not relevant to the gas main diversion or the proposed scheme.
2.19 Gas and Oil Pipelines	2.19.3 The applicant should submit an ES including an assessment of the impact of the project (see section 4.2 of EN-1).	The gas main diversion is an ‘EIA development’ because it is of a type of development listed within schedule 2, regulation 3(1), part 3(b) (energy industry) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) and could generate significant environmental effects by virtue of its nature, scale and location. The gas main diversion is therefore subject to mandatory EIA procedures as set out

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
		<p>in those Regulations. The EIA screening exercise is provided in Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3].</p> <p>In accordance with paragraph 2.19.3 of EN-4 an EIA has been undertaken which describes and assesses the effects of the gas main diversion on humans, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage. The findings of the EIA are presented in the ES for the proposed scheme [TR010060/APP/6.1] which includes a description of the gas main diversion, the likely significant environmental effects, the measures to avoid, reduce, or offset such effects and the alternatives considered. Combined effects of the different aspects are reported within individual chapters of the ES in accordance with Chapter 5: Environmental assessment methodology (TR10060/APP/6.1).</p>
2.19.6 Pipeline Safety	<p>In the pipeline industry there are well established standards, covering design, operation and maintenance of UK sector major accident hazard pipelines which can be used to demonstrate risks are ALARP. If a pipeline operator wishes to use other standards, recommendations or guidance then this should be discussed with the HSE and may be acceptable to the HSE, provided that the pipeline operator can demonstrate that they achieve at least the equivalent levels of safety. A gap analysis should be undertaken to confirm this.</p>	<p>Detailed designs are to be carried out by Cadent Gas Limited, or their designers on their behalf, and will be in accordance with established industry standards and specifications, which will include relevant risk assessments, and subject to appropriate approvals and appraisals.</p> <p>Wherever further engagement is required with HSE with regard gas pipeline design and/or operation this will be entered into by Cadent Gas Limited during the early stages of Detailed Design.</p>

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
2.19.8	When designing the route of new pipelines applicants should research relevant constraints including proximity of existing and planned residential properties, schools and hospitals, railway crossings, major road crossings, below surface usage and proximity to environmentally sensitive areas, main river and watercourse crossings. These can be undertaken by means of desk top studies in the first instance, followed up by consulting the appropriate authority, operator, or conservation body if necessary.	The impact of the gas main diversion has been assessed and discussed in each of the topic Chapters 6 to 16 of the ES [TR010060/APP/6.1]. This includes the existing baseline environment as well as reporting the potential impacts in combination with planned development.
2.19.9	Undetected underground cavities from mine workings, abandoned industrial sites and other activities, such as waste disposal, or other utilities' services (water, telecommunication, etc.) could have an effect on the integrity and safety of a pipeline. The effects might include collapse of underground tunnels, damage to utility services and pollution of water courses. Applicants should undertake desktop surveys to identify historic or current mine workings, underground cavities serving industrial usage, the nature of any made ground, waste sites, unexploded ordnance, utility services and any other below surface usage when assessing routes for a pipeline.	Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] informed the optioning process to identify the corridor. This informed the stakeholders and community of potential environmental effects for the gas main diversion corridor.
2.19.10	When choosing a pipeline route, applicants should seek to avoid or minimise adverse effects from usage below the surface. Where it is not considered practicable to select a route that avoids below surface usage, applicants should demonstrate in the ES that mitigating measures will be put in place to avoid adverse effects both on other below ground works and on the pipeline. Mitigating measures may include: protection or diversion of underground services; gas detection near landfill sites; horizontal direct drilling	The preferred route of the gas main diversion has been developed whilst considering the functionality, infrastructure and environmental constraints. Effects below the surface are assessed within Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1] which considers land contamination (effects on human health, surface water and groundwater). Mineral resources are covered in Chapter 11: Material assets and waste, of the ES [TR010060/APP/6.1]. A complete list of

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
	(HDD) techniques and rerouting. Contaminated material may need to be removed and disposed of.	mitigation measures is presented in the REAC within the first iteration of the (EMP) [TR010060/APP/6.5].
2.20 Gas and Pipeline Impacts: Noise and Vibration	2.20.2 During the pre-construction phase there could be vibration effects from seismic surveys. During construction, tasks may include site clearance, soil movement, ground excavation, tunnelling, trenching, pipe laying and welding, and ground reinstatement. In addition, increased HGV traffic will be generated on local roads for the movement of materials. These types of noise and vibration impacts will need to be assessed.	<p>A description of the existing situation is contained within Section 12.8 of Chapter 12: Noise and Vibration, of the ES [TR010060/APP/6.1].</p> <p>The noise sensitive premises are identified within Section 12.8 of Chapter 12 and are shown on Figure 12.2: Noise sensitive receptors [TR010060/APP/6.2].</p> <p>The characteristics of the existing noise environment are described within Section 12.8 of Chapter 12 and within Appendix 12.3: Noise baseline survey results [TR010060/APP/6.3].</p> <p>The prediction of how the noise environment would change and the assessment of effects from this change is provided within sections 12.9 and 12.11 of Chapter 12. This includes during the construction and operation phase.</p> <p>Mitigation measures are described in section 12.10 of Chapter 12 and summarised in the first iteration of the EMP [TR010060/APP/6.5].</p>
2.21.3 Gas and Pipeline Impacts: Biodiversity, Landscape and Visual	The ES should include an assessment of the biodiversity and landscape and visual effects of the proposed route and of the main alternative routes considered (see Section 5.9 of EN-1). The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work. Where it is	The qualitative assessment in Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] shows that one aspect is likely to give rise to likely significant effects as a result of the gas main diversion; landscape and visual. This is due to the loss of trees and woodland, which would impact the landscape character of the River Blackwater valley, open up views across the

EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
	<p>unlikely to be possible to restore landscape to its original state, the applicant should set out measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape.</p>	<p>Blackwater River Valley towards the A12, and result in loss of lowland mixed deciduous woodland habitat. There would be permanent loss of willow plantation west of the River Blackwater, which is a distinctive characteristic feature of this landscape. It would not be appropriate to plant vegetation other than that permitted within Cadent's standards and specifications: large trees are generally excluded from planting within the pipeline easement.</p>
<p>2.21.6 Gas and Pipeline Impacts: Biodiversity, Landscape and Visual</p>	<p>In circumstances where the habitat to be crossed contains ancient woodland, trees subject to a Tree Preservation Order, or hedgerows subject to the Hedgerows Regulations 1997, the applicant should consider whether it would be feasible to use horizontal direct drilling under the ancient woodland or thrust bore under the protected tree or hedgerow and the IPC should consider requiring this, where not included in the proposal.</p>	<p>The gas main diversion will not cross any ancient woodland or affect any trees subject to a Tree Preservation Order. It may affect hedgerows subject to the Hedgerows Regulations 1997 at Dengie Farm Access track between an existing substation and the A12. This is where the gas main diversion will start. At this point the proposed scheme cannot commit to other means of construction such as horizontal direct drilling or thrust bore, but these are some of the methods considered to avoid wooded areas and river crossings. The final decision on construction methods will be determined by Cadent Gas Limited, or their designers on their behalf, and will be in accordance with established industry standards and specifications.</p>
<p>2.22 Gas and Oil Pipelines: Water Quality and Resources</p>	<p>2.22.3 Where the project is likely to have effects on water resources or water quality, for example impacts on groundwater recharge or on existing surface water or groundwater abstraction points, or on associated ecological receptors, the applicant should</p>	<p>Water quality and impacts of the gas main diversion upon them are described within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and Appendix 14.1: Water Quality Assessment [TR010060/APP/6.3]. Issues relating to the Water</p>

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	<p>provide an assessment of the impacts in line with Section 5.15 of EN-1 as part of the ES.</p>	<p>Framework Directive are addressed within Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment [TR010060/APP/6.3]. Groundwater issues are further discussed within Appendix 14.4: Groundwater Assessment [TR010060/APP/6.3].</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] reported that no significant effects on water quality and resources would occur from the proposed gas main diversion.</p>
<p>2.23.2 Gas and Oil Pipelines: Soil and Geology</p>	<p>Applicants should assess the stability of the ground conditions associated with the pipeline route and incorporate the findings of that assessment in the ES (see Section 4.2 of EN-1) as appropriate. Desktop studies, which include known geology and previous borehole data, can form the basis of the applicant’s assessment. The applicant may find it necessary to sink new boreholes along the preferred route to better understand the ground conditions present. The assessment should cover the options considered for installing the pipeline and weigh up the impacts of the means of installation. Where the applicant proposes to use horizontal directional drilling (HDD) as the means of installing a pipeline under a National or European Site and mitigating the impacts, the assessment should cover whether the geological conditions are suitable for HDD.</p>	<p>An assessment of geology and soils is reported in Chapter 10: Geology and soils of the ES [TR010060/APP/6.1]. This chapter discusses the ground conditions of land within the order limits, including the gas main diversion.</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] reported that no significant effects on geology and soils would occur from the proposed gas main diversion.</p>
<p>2.23.7 Gas and Oil Pipelines: Soil and Geology</p>	<p>Mitigation measures to minimise any adverse effects on soil and geology should include measures to ensure that residual impacts on the surface are minor, for example some differential vegetation growth. Mitigation measures should include appropriate treatment of soil (and in particular topsoil) during site construction and other</p>	<p>The proposed soil management measures to be adopted during construction are detailed in Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1] and are based on the Construction Code of Practice for the Sustainable use of Soils on Construction Sites (Defra 2009). All</p>

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	infrastructure activity (and appropriate soil storage and reinstatement in line with the principles and practices outlined in the Code of Practice for the Sustainable Management of Soils on Construction Sites. The IPC should consider what appropriate conditions should be attached to any consent.	mitigation measures are also included in the REAC within the first iteration of the EMP [TR010060/APP/6.5].

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4.2.1 (Environmental Principles)	<p>All proposals for projects that are subject to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project. The Regulations specifically refer to effects on population, human health, biodiversity, land, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. The Regulations require an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, transboundary, short, medium, and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects.</p>	<p>The gas main diversion is an ‘EIA development’ because it is of a type of development listed within schedule 2, regulation 3(1), part 3(b) (energy industry) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) and could generate significant environmental effects by virtue of its nature, scale and location. The main gas diversion is therefore subject to mandatory EIA procedures as set out in those Regulations. The EIA screening exercise is documented in Appendix 5.2 of the Environmental Statement (ES) [TR010060/APP/6.3].</p> <p>In accordance with paragraph 4.2.1 of EN-1 an EIA has been undertaken which describes and assesses the effects of the gas main diversion on humans, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage. The findings of the EIA are presented in the ES for the proposed scheme [TR010060/APP/6.1] which includes a description of the gas main diversion, the likely significant environmental effects, the measures to avoid, reduce, or offset such effects and the alternatives considered. Combined effects of the different aspects are reported within individual chapters of the ES in accordance with Chapter 5: Environmental assessment methodology (TR10060/APP/6.1).</p>

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4.2.2 (Environmental Principles)	To consider the potential effects, including benefits, of a proposal for a project, the applicant should set out information on the likely significant social and economic effects of the development, and show how any likely significant negative effects would be avoided, reduced, or mitigated. This information could include matters such as employment, equality, biodiversity net gain, community cohesion and well-being.	The social and economic effects of the gas main diversion are assessed as part of Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] and in the Mental Wellbeing Impact Assessment reported in Appendix 13.4 of the ES [TR010060/APP/6.1]. The Equality Impact Assessment [TR010060/APP/7.5] discusses how the requirements of the Equality Act 2010 have been embedded in the scheme's development, including design, communication and engagement strategy, and mitigation strategies.
4.2.5 (Environmental Principles)	In some instances, it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the Case.	<p>The gas main diversion is part of a number of utilities being diverted by the respective statutory undertakers. These diversions are subject to feasibility studies and preliminary design carried out by the statutory undertakers (as defined in the New Road and Street Works Act 1991). The gas main diversion currently has a draft scheme and budget estimate, this has formed the basis of the information presented in this application.</p> <p>As part of the development of the proposed scheme the Applicant carried out a gas main diversion screening assessment available at Appendix 5.2 of the ES[TR010060/APP/6.3] where an initial desk assessment of the possible environmental effects is captured. The CftS [TR010060/APP/7.1] includes a gas main diversion statement which explains the characteristics of the pipeline, the need for its diversion and work done to identify possible routes. This section also contains details of the diverted pipeline in accordance with regulation 6(4)</p>

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		<p>of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.</p> <p>The draft DCO [TR010060/APP/3.1] provides the limits of deviation both laterally and vertically. These limits have been included in the proposed scheme in order to allow a necessary, but proportionate, degree of flexibility to facilitate the detailed design and construction stages of the proposed scheme. The limits of deviation have been considered when undertaking all technical assessments, including those specific to the gas main diversion, in relation to the proposed scheme.</p> <p>Chapter 5: Environmental assessment methodology, of the ES [TR010060/APP/6.1] sets out the assessment methodology and approach taken to prepare the EIA. Chapter 5 also includes details of how the proposed scheme has been assessed where information was not available to inform the assessment. In addition, each of the aspect chapters gives a description of the assumptions made and the limitations of the assessment in relation to the scheme as a whole and the gas main diversion.</p>
4.2.6 (Environmental Principles)	Where some details are still to be finalised, the ES should set out to the best of the applicant’s knowledge, what the likely worst-case environmental, social and economic effects of the proposed development may be and assess, on that basis, to ensure that the impacts of the project as it may be constructed have been properly assessed.	The location and Order Limits of the proposed scheme are illustrated on Figure 1.1: Location Plan [TR010060/APP/6.2]. Limits of deviation have been incorporated within the Order Limits to allow minor modifications to be made to the proposed scheme during the detailed design and construction stages.

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		<p>The ES [TR010060/APP/6.1] approach is to provide an assessment of the proposed scheme design based on the realistic worst-case scenario afforded by the limits of deviation to be sought within the DCO application. This is therefore the maximum possible extent of the proposed scheme and as such has been assessed within the ES. The EIA screening exercise documented in Appendix 5.2 of the ES [TR010060/APP/6.3] provides a desk based study of the area where the proposed gas main diversion is to be installed, reporting on possible significant effects on the environment.</p>
<p>4.2.9 (Habitats Regulations)</p>	<p>The Secretary of State must, under the Habitats Regulations, consider whether the project may have a significant effect on a protected site which is part of the National Site Network, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects. The applicant should seek the advice of the appropriate SNCB and provide the Secretary of State with such information as the Secretary of State may reasonably require, to determine whether an Appropriate Assessment (AA) is required. If an AA is required, the applicant must provide the Secretary of State with such information as may reasonably be required to enable the Secretary of State to conduct the AA. This should include information on any mitigation measures that are proposed to minimise or avoid likely effects.</p>	<p>Section 9.8 of Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] identifies the sites designated under the Habitats and Species Regulations which could be impacted by the proposed scheme.</p> <p>Section 9.11 of Chapter 9 and Appendix 9.8: Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.3] describes the potential for likely significant effects on internationally, nationally and locally designated sites of ecological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity.</p> <p>Given that no likely significant effects were identified to any internationally significant sites, an Appropriate Assessment was not required.</p>

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<p>4.2.11 - 4.2.12 ES alternatives</p>	<p>As in any planning case, the relevance or otherwise to the decision making process of the existence (or alleged existence) of alternatives to the proposed development is in the first instance a matter of law, detailed guidance on which falls outside the scope of this NPS. From a policy perspective this NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option.</p> <p>However:</p> <p>applicants are obliged to include in their ES, information about the reasonable alternatives they have studied. This should include an indication of the main reasons for the applicant’s choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility</p> <p>in some circumstances, the NPSs may impose a policy requirement to consider alternatives (see below in Sections 5.4, 5.8 and 5.10)</p>	<p>Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1] sets out in Table 3.5 the main alternatives for the gas main diversion, considered by the Applicant and how the preferred option was determined through consideration of environmental effects. This is in line with the requirements of the EIA Directive. The Consultation Report [TR010060/APP/5.1] also sets out the options that the public were consulted on.</p> <p>A Detailed Water Environment Regulations Compliance Assessment (WFD) has been carried out and is presented in Appendix 14.2 [TR010060/APP/6.3]. It shows compliance for all designated water bodies assessed therefore no consideration of WFD alternatives is required.</p> <p>A Habitats Regulations Directive (HRA) assessment has been carried out and is presented in Appendix 6.8 Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.9]. It concludes that no likely significant effects on any sites within the national site network are anticipated, when considered alone or in combination with other plans or projects. Therefore, no consideration of alternatives is required.</p> <p>A flood risk sequential test has been carried out and is reported within Appendix 14.5: Flood Risk Assessment (FRA) [TR010060/APP/6.3]. Subsequently an exception test was required, the results of which show that the proposed scheme passes the requirements of the test.</p>

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		<p>The proposed scheme is not located within or near any National Park, The Broads or any Area of Outstanding Natural Beauty (AONB). Therefore, no alternatives assessment relating to these features is required.</p> <p>The proposed scheme is identified in both RIS1 (2015-2020) and RIS 2 (2020-2025). Therefore, option-testing does not need to be considered by the Examining Authority or the decision maker as this assessment has already been undertaken.</p> <p>Design options considered and appraised as part of the proposed scheme's development process are presented in Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1) and the CftS [TR010060/APP/7.1]. The main development stages included:</p> <ul style="list-style-type: none"> Initial options identification, assessment and sifting. Options development and shortlisting. Assessment of shortlisted options to identify viable options for consultation. Consultation and option selection Preferred Route Announcement (PRA). Design development for statutory consultation. Continued design development post statutory consultation.
4.3 Health	4.3.2 As described in the relevant sections of this NPS and in the technology specific NPSs, where the proposed project has an	The cumulative impacts of the proposed scheme (which includes the gas main diversion) on health have been

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	<p>effect on human beings, the ES should assess these effects for each element of the project, identifying any potential adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate. The impacts of more than one development may affect people simultaneously, so the applicant should consider the cumulative impact on health in the ES where appropriate.</p> <p>4.3.3 The direct impacts on health may include increased traffic, air or water pollution, dust, odour, hazardous waste and substances, noise, exposure to radiation, and increases in pests</p>	<p>assessed in Chapter 16: Cumulative Effects, of the Environmental Statement (ES) [TR10060/APP/6.1]. This has been informed by Chapter 13: Population and human health, of the ES [TR010060/APP/6.1], which assesses the impacts on health including air, water, dust and noise pollution and hazardous waste and substances.</p> <p>In respect of odour, exposure to radiation and increases in pests; these are not addressed in the ES as they are not relevant to the gas main diversion</p>
4.4	Marine Considerations	This section refers the marine environment and as such is not relevant to the gas main diversion or the proposed scheme.
4.5.1 – 4.5.2 (Environmental and biodiversity net gain)	<p>Environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Applicants should therefore not just look to mitigate direct harms, but also consider whether there are opportunities for enhancements. Biodiversity net gain is an essential component of environmental net gain. Projects should consider and seek to incorporate improvements in natural capital, ecosystem services and the benefits they deliver when planning how to deliver biodiversity net gain</p> <p>Although achieving biodiversity net gain is not an obligation for projects under the Planning Act 2008, energy NSIP proposals should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity where possible. Applicants are encouraged to use the most current</p>	The Defra 3 biodiversity metric is being applied to the proposed scheme (including the gas main diversion), with the aim of maximising biodiversity value. The proposed scheme is exceeding 10% net gain. Further details of the methodology can be found within Appendix 9.14: Biodiversity Net Gain report [TR010060/APP/6.3].

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	<p>version of the Defra biodiversity metric to calculate their biodiversity baseline and inform their biodiversity net gain outcomes and to present this data as part of their application. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations.</p>	
<p>4.5.3 (Environmental and biodiversity net gain)</p>	<p>In addition to delivering biodiversity net gain, developments may also deliver wider environmental gains relevant to the local area, and to national policy priorities, such as reductions in GHG emissions, reduced flood risk, improvements to air or water quality, or increased access to natural greenspace. The scope of potential gains will be dependent on the type, scale, and location of specific projects. Applications for development consent should be accompanied by a statement demonstrating how opportunities for delivering wider environmental net gains have been considered, and where appropriate, incorporated into the design (including any relevant operational aspects) of the project. Applicants should make use of available guidance and tools for measuring natural capital assets and ecosystem services, such as the Natural Capitals Committee’s ‘How to Do it: natural capital workbook’ and Defra’s guidance on Enabling a Natural Capital Approach (ENCA). Where environmental net gain considerations have featured as part of the strategic options appraisal process to select a project, the statement should reference that information to supplement the site-specific details.</p>	<p>The Design and Access Statement (DAS) [TR010060/APP/7.4] shows how design was considered on the proposed scheme as a whole and how the proposed scheme will promote access to green space.. Figure 2.1: Environmental Masterplan [TR010060/APP/6.2] is also available to demonstrate how maximising biodiversity and mitigation of environmental impacts is proposed.</p> <p>Reductions in flood risk are discussed within Chapter 14: Road drainage and the water environment, of the ES [TR010044/APP/6.1]. Where significant, beneficial and adverse effects are recorded within Tables 14.18 and 14.19. No significant effects have been recorded for water quality.</p>
<p>4.6 Criteria for ‘Good Design’ for</p>	<p>4.6.2 Good design is also a means by which many policy objectives in the NPS can be met, for example the impact sections show how good design, in terms of siting and use of</p>	<p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] was prepared to explain the corridor choice and mitigations proposed to manage impacts of</p>

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Energy Infrastructure	appropriate technologies, can help mitigate adverse impacts such as noise. Given the benefits of “good design” in mitigating the adverse impacts of a project, applicants should consider how “good design” can be applied to a project during the early stages of the project lifecycle. Design principles should be established from the outset of the project to guide the development from conception to operation.	the project. A Design Principles Statement [TR010060/APP/7.10] was prepared to explain how design is imbedded onto the overall scheme design, including the gas main diversion.
4.7 Consideration of combined heat and power (CHP)	4.7.1 Combined Heat and Power (CHP) is the generation of usable heat and electricity in a single process. A CHP station may either supply steam direct to customers or capture waste heat for low-pressure steam, hot water, or space heating purposes after it has been used to drive electricity generating turbines. The heat can also be used to drive absorption chillers, thereby providing cooling.	This section relates to new energy infrastructure and thus is not relevant to the gas main diversion or the proposed scheme.
4.8 Carbon capture and storage	4.8.1 CCS is a technology that enables carbon dioxide that would otherwise be released to the atmosphere to be captured and permanently stored. It can be applied to any large point source of carbon dioxide, such as thermal generating power stations or other industrial processes that are high emitters. Carbon capture rates achieved will depend on the application and a minimum capture rate may be required. Carbon capture technologies offer the opportunity to decarbonise the electricity system whilst maintaining security of supply, providing reliable low carbon generation capacity.	This section relates to new energy infrastructure and thus is not relevant to the gas main diversion or the proposed scheme.
4.9 Climate change adaptation	4.9.6 New energy infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when	This section refers to new energy infrastructure and is thus of limited relevance to the gas main diversion or the proposed scheme. Although the gas main diversion will be a new pipeline, it is a like for like replacement.

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	<p>planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure. The ES should set out how the proposal will take account of the projected impacts of climate change, in accordance with the EIA Regulations. This information will be needed by the Secretary of State.</p>	<p>However, for completeness of the response, the design has been developed taking into account the potential implications of climate change such as resilience to flooding and high temperatures. As the pipeline is installed underground it will not increase flood risk but also being underground is protected from flooding events.</p> <p>The EIA process has considered the effects of possible future changes in climate over a 60-year appraisal period and potential impacts of these climatic changes have been assessed in Chapter 15: Climate, of the ES [TR010060/APP/6.3].</p> <p>The drainage design has been developed taking into account future potential increases in flooding, whilst the impacts have been considered in Appendix 14.5: FRA [TR010060/APP/6.3]. The guidance on climate change allowances has been used (Environment Agency (2021) Flood risk assessments: climate change allowances). Mitigation measures with regards to climate change are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5].</p>
4.10 Grid connection	<p>4.10.1 The connection of a proposed electricity generation plant to the electricity network is an important consideration for applicants wanting to construct or extend generation plant. In the market system and in the past, it has been for the applicant to ensure that there will be necessary infrastructure and capacity within an existing or planned transmission or distribution network to accommodate the electricity generated. To support the achievement of the transition to net zero, government is</p>	<p>This section relates to new energy infrastructure and thus is not relevant to the gas main diversion or the proposed scheme.</p>

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	<p>accelerating the co-ordination of the development of the grid network to facilitate the UK's net zero energy generation development and transmission. Applicants should consider co-ordinating their proposals for the onshore-offshore connection, as outlined at Section 3.3.</p>	
<p>4.11 Pollution control and other environmental regulatory regimes</p>	<p>4.11.3 Pollution from industrial sources in England and Wales is controlled through the Environmental Permitting (England and Wales) Regulations 2016 (EPR). The EPR requires industrial facilities to have an EP and meet limits on allowable emissions to operate.</p>	<p>The impacts of the gas main diversion are considered throughout the ES [TR010060/APP/6.1]. The first iteration of the EMP [TR010060/APP/6.5] outlines the control of processes, emissions and discharges through the construction process.</p> <p>Liaison is ongoing with the Environment Agency, Essex County Council and Natural England to ensure that they are satisfied with good practice measures currently in place in the REAC within the EMP[TR010060/APP/6.5], the Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.8] and the Appendices associated with Chapter 9: Biodiversity and Chapter 14 Road drainage and the water environment ES [TR010060/APP/6.1].</p> <p>Chapter 16: Cumulative effects, of the ES [TR010060/APP/6.1] assesses that no cumulative effects arising in relation to pollution as a result of nearby planned developments are predicted.</p>
<p>4.12 Safety</p>	<p>4.12.3 Some energy infrastructure will be subject to the Control of Major Accident Hazards (COMAH) Regulations 2015. These Regulations aim to prevent major accidents involving dangerous substances and limit the consequences to people and the</p>	<p>There will be no natural gas storage associated with the Cadent diversion works of the existing gas main and therefore it is considered that the COMAH Regulations 2015 do not apply to the project. Other regulations will</p>

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	<p>environment of any that do occur. COMAH regulations apply throughout the life cycle of the facility, i.e. from the design and build stage through to decommissioning. They are enforced by the Competent Authority comprising HSE and the EA acting jointly in England and by the HSE and NRW acting jointly in Wales, and the HSE and Scottish Environment Protection Agency (SEPA) acting jointly in Scotland. The same principles apply here as for those set out in the previous section on pollution control and other environmental permitting regimes.</p>	<p>apply, and the diversion work will be carried out in accordance with all relevant health and safety legislation.</p> <p>Dangerous substances in all pipeline and pipework must be taken into account when identifying possible major accidents scenarios, this is taken into account under Cadent's emergency plans.</p>
<p>4.13 Hazardous substances</p>	<p>4.13.1 All establishments wishing to hold stocks of certain hazardous substances above a threshold need Hazardous Substances consent. Applicants must consult the Hazardous Substances Authority and the HSE at pre-application stage if the project is likely to need hazardous substances consent. Where hazardous substances consent is applied for, the Secretary of State will consider whether to make an order directing that hazardous substances consent shall be deemed to be granted alongside making an order granting development consent.⁷⁸ The Secretary of State should consult HSE about this.</p>	<p>This section refers to the storage of hazardous substances and so is not relevant to the proposed scheme or gas main diversion.</p>
<p>4.14 Common Law Nuisance and Statutory Nuisance</p>	<p>4.14.2 At the application stage of an energy NSIP, possible sources of nuisance under section 79(1) of the 1990 Act and how they may be mitigated or limited should be considered by the Secretary of State so that appropriate requirements can be included in any subsequent order granting development consent (see Section 5.7 on Dust, odour, artificial light etc. and Section 5.12 on Noise and vibration).</p>	<p>For the diverted length of the gas main sources of nuisance may occur during construction. The proposed scheme has prepared a number mitigation measures as listed in the REAC, which is part of the first iteration of the EMP[TR010060/APP/6.5] for the diverted length of the gas main diversion.</p> <p>The EMP also include measures to reduce noise, dust, odour and artificial light during the pipeline construction period. Appendix 5.2: Gas main diversion screening</p>

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		<p>assessment [TR010060/APP/6.3] sets out the likely significant effects identified along the preferred diversion corridor, which reported no significant effect on air quality. In respect of emissions of odour, these are not addressed in the ES as the proposed scheme would not result in any of these emissions that would require an assessment. In terms of the proposed scheme’s impact on artificial light, the landscape and visual impact assessment in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers the significance of effect of both day and night-time changes for landscape and visual receptors in line with the requirements of DMRB LA 107. The assessment considers the effects of construction lighting, highway lighting and vehicle lights, and identifies the potential for temporary lighting to have an impact. This will be mitigated by the use of sensitive lighting design as outlined in Section 8.10 of Chapter 8.</p>
<p>4.15 Security considerations</p>	<p>4.15.1 National security considerations apply across all national infrastructure sectors. BEIS works closely with Government security agencies including the Centre for the Protection of National Infrastructure (CPNI) and the National Cyber Security Centre (NCSC) to provide advice to the most critical infrastructure assets on terrorism and other national security threats, as well as on risk mitigation. In the UK’s civil nuclear industry, security is also independently regulated by the Office for Nuclear Regulation (ONR).</p>	<p>No national security considerations have been identified for the gas main diversion.</p>

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5.2 Air quality and emissions	5.2.1 Infrastructure development can have adverse effects on air quality. The construction, operation and decommissioning phases can involve emissions to air which could lead to adverse impacts on health, on protected species and habitats, or on the wider countryside and species. Air emissions include particulate matter (for example dust) up to a diameter of ten microns (PM10) as well as gases such as sulphur dioxide, carbon monoxide and nitrogen oxides (NOx). Levels for pollutants in ambient air are set out in the Air Quality Standards Regulations 2010 and reiterated in the Air Quality Strategy	Chapter 6: Air quality, of the ES [TR010060/APP/6.1] presents the results of the assessment of the impacts of the proposed scheme on air quality, in accordance with DMRB LA 105. Potential impacts, mitigation measures and the significance of residual effects, during both the construction and operation stages of the proposed scheme, are presented and discussed in Sections 6.9, 6.10 and 6.11 of Chapter 6 respectively. Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] sets out the likely significant effects identified along the preferred diversion corridor, which reported no significant effect on air quality.
5.3 Greenhouse gas emissions	5.3.5 The Secretary of State must be satisfied that the applicant has as far as possible assessed the GHG emissions of all stages of the development.	This section introduces the requirement for a carbon assessment to be included in the Environmental Statement. The carbon assessment can be found in Chapter 15: Climate, of the ES [TR010060/APP/6.1].
5.4 Biodiversity and geological conservation	5.4.4 The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests. As set out in Section 4.6, the design process should embed opportunities for nature inclusive design. The applicant is encouraged to consider how their proposal can contribute towards Biodiversity Net Gain in line with the ambition set out in the 25 Year Environment Plan. Energy infrastructure projects have the potential to deliver significant benefits and enhancements beyond Biodiversity Net Gain, which	The NPSNN and EN-1 both set out the expectation that schemes should avoid net loss of biodiversity though mitigation and appropriate compensation, and that the applicant demonstrates that opportunities to enhance existing habitats have been taken. 9.10 of Chapter 9: Biodiversity and Chapter 3: Assessment of Alternatives, of the ES [TR010060/APP/6.1] sets out the approach of maximising biodiversity delivery is being applied to the proposed scheme as discussed in Section 9.13 of

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	result in wider environmental gains. The scope of potential gains will be dependent on the type, scale, and location of each project.	<p>Chapter 9 and Appendix 9.14: Biodiversity Net Gain report [TR010060/APP/6.3].</p> <p>The single geological SSSI has been scoped out of Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1]</p> <p>Sections 9.9 to 9.11 of Chapter 9: Biodiversity, and Sections 10.9 to 10.11 of Chapter 10: Geology and soils, of the Environmental Statement (ES) [TR010060/APP/6.1] detail impacts, mitigation and significant effects to ecological receptors such that the Secretary of State can be informed in the decision-making process. The first iteration of the EMP [TR010060/APP/6.5] includes all mitigation measures from the chapters.</p>
5.5	Civil and military aviation and defence interests	This section refers to civil and military aviation and other defence interests and as such is not relevant to the gas main diversion or the proposed scheme.
5.6	Coastal Change	This section refers to coastal change and as such is not relevant to the gas main diversion or the proposed scheme.
5.7 Dust, odour, artificial light, smoke, steam, and insect infestation	5.7.4 The applicant should assess the potential for insect infestation and emissions of odour, dust, steam, smoke, and artificial light to have a detrimental impact on amenity, as part of the ES.	<p>A gas main diversion screening report Appendix 5.2 of the ES [TR010060/APP/6.3] was prepared and no likely significant environmental effects were identified on Air Quality, Noise and Vibration, or Geology and Soils.</p> <p>As discussed in Chapter 6: Air quality, of the ES [TR010060/APP/6.1] there is the potential for dust effects</p>

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		<p>during the construction phase at sensitive receptors within the distance bands outlined in the DMRB LA 105. These are shown on Figure 6.4: Construction dust assessment [TR010060/APP/6.2]. The level and distribution of construction dust emissions will depend on where within the Order Limits the dust raising activity takes place, the nature of the activity and controls, and weather conditions. Chapter 6 shows the number of receptors within the distance bands outlined in the DMRB LA 105. Based on the number of receptors within the distance bands and the large potential for dust emissions to occur, the construction dust risk is considered to be 'high'. This is in accordance with DMRB LA 105 Tables 2.58a and 2.58b. As outlined in the methodology, standard mitigation measures in line with this level of risk have been detailed within the first iteration of the EMP [TR010060/APP/6.5].</p> <p>In terms of the proposed scheme's impact on artificial light, the landscape and visual impact assessment in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers the significance of effect of both day and night-time changes for landscape and visual receptors in line with the requirements of DMRB LA 107. The assessment considers the effects of construction lighting, highway lighting and vehicle lights, and identifies the potential for temporary lighting to have an impact. This will be mitigated by the use of sensitive lighting design as outlined in Section 8.10 of Chapter 8.</p>

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		In respects of emissions of odour, smoke and steam, these are not addressed in the ES as the proposed scheme would not result in any of these emissions that would require an assessment.
5.8 Flood risk	5.8.12 For energy projects which have drainage implications, approval for the project’s drainage system, including during the construction period, will form part of the development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. In addition, the development consent order, or any associated planning obligations, will need to make provision for appropriate operation and maintenance of any SuDS throughout the project’s lifetime. Where this is secured through the adoption of any SuDS features, any necessary access rights to property will need to be granted. Where relevant, the Secretary of State should be satisfied that the most appropriate body is being given the responsibility for maintaining any SuDS, taking into account the nature and security of the infrastructure on the proposed site. Responsible bodies could include, for example the landowner, the relevant lead local flood authority or water and sewerage company (through the Ofwat-approved Sewerage Sector Guidance99), or another body, such as an Internal Drainage Board.	The gas main diversion would be below ground and therefore drainage and flood risk implications are limited. The potential effect of the diversion on groundwater is discussed in Section 7 of the Groundwater Assessment, Appendix 14.4 [TR010060/APP/6.3]. As the diversion is below ground, no permanent drainage is required solely for the gas main diversion. During construction of the diversion, there is a risk that floodplain capacity could be impacted by the works. Measures to ensure no increase in flood risk as a result of the construction of the proposed scheme are discussed in Section 7 of the FRA, Appendix 14.5 [TR010060/APP/6.3].
5.9 Historic environment	5.9.11 As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting.	An assessment has been undertaken to identify likely significant heritage impacts from the proposed scheme and appropriate mitigation measures. The methodology

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	<p>The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, Historic England or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development’s impact</p>	<p>and findings of the assessment are presented in Chapter 7: Cultural Heritage, of the ES [TR010060/APP/6.1]. Non-designated cultural heritage assets have been identified through desk-based studies in Appendix 7.1: Cultural Heritage Gazetteer, Appendix 7.2: Cultural Heritage Desk Based Assessment, Appendix 7.3: Palaeolithic Desk Based Assessment and Appendix 7.4: Aerial Investigation and Mapping Report [TR010060/APP/6.3], supplemented by a programme of non-intrusive and intrusive field evaluation reported in Appendices 7.5 and 7.6: Geophysical Survey Phase 1 and 2, and 7.7: Archaeological Trial Trenching Report [TR010060/APP/6.3]. Consultation has also been carried out with Historic England to gain their views and guidance.</p> <p>The gas main diversion will not have direct impacts on any Scheduled Ancient Monuments, or archaeological remains. Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] did not identified any likely significant effects on the historic environment arising from the gas main diversion.</p>
5.10 Landscape and visual	<p>5.10.5 The applicant should carry out a landscape and visual assessment and report it in the ES (see Section 4.2). A number of guides have been produced to assist in addressing landscape issues. The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant’s assessment should also take account of any relevant policies based on these</p>	<p>EN-1 states that virtually all nationally significant infrastructure projects are likely to have visual effects around proposed sites, but EN-4 notes that long term visual impacts posed by pipelines are likely to be limited as their main infrastructure is usually buried. Please see section 2.21 of the EN-4 accordance table.</p>

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	assessments in local development documents in England and local development plans in Wales.	
5.11 Land use, including open space, green infrastructure, and greenbelt	5.11.5 The ES (see Section 4.2) should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan.	<p>EN-1 requires applicants to consult the local community on proposals to build on open space, sports or recreational buildings and land. The route of the proposed scheme, including potential impacts of construction, has been subject to public consultation. See the Consultation report [TR010044/APP/5.1] for further detail. Existing and proposed land uses and detail of relevant planning history relating to developments within and adjacent to the Order Limits are within the CftS [TR010060/APP/7.1]. The existing conditions within the Scheme Order Limits and surrounding area are also reported in Chapters 6-15, of the ES [TR010060/APP/6.1]. There are no areas of greenbelt in or around the Order Limits, and no sports and recreation buildings included within the Order Limits. Loss of open space has been assessed and is discussed in Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] with further detail provided in Appendix 13.3: Detailed land use and accessibility assessment tables [TR010060/APP/6.3]. Any loss of such community assets would be replaced by equivalent or improved provision.</p> <p>The land identified as open and its replacement land are explained and identified on the Replacement Land Statement [TR010060/APP/7.9]. The proposed gas main route does not cross open spaces, community assets or green belt, it will cross the car park and a corner of a golf</p>

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		<p>course, the impacts on this infrastructure will be temporary and transient.</p> <p>The Statement of Reasons [TR010060/APP/4.1] also provides detail of land that is proposed to be acquired and brings reference in Section 7.2 to special category land forming part of open space that would be acquired for the delivery of the proposed scheme.</p>
<p>5.12 Noise and vibration</p>	<p>5.12.4 Where noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment:</p> <ul style="list-style-type: none"> a description of the noise generating aspects of the development proposal leading to noise impacts, including the identification of any distinctive tonal, impulsive, low frequency or temporal characteristics of the noise identification of noise sensitive receptors and noise sensitive areas that may be affected the characteristics of the existing noise environment a prediction of how the noise environment will change with the proposed development in the shorter term, such as during the construction period in the longer term, during the operating life of the infrastructure at particular times of the day, evening and night (and weekends) as appropriate, and at different times of year an assessment of the effect of predicted changes in the noise environment on any noise-sensitive receptors, including an 	<p>A description of the existing situation is contained within Section 12.8 of Chapter 12: Noise and Vibration, of the ES [TR010060/APP/6.1]. The noise sources from the proposed scheme are described within section 12.9.</p> <p>The noise sensitive premises are identified within Section 12.8 of Chapter 12 and are shown on Figure 12.2: Noise Sensitive Receptors [TR010060/APP/6.2].</p> <p>The characteristics of the existing noise environment are described within Section 12.8 of Chapter 12 and within Appendix 12.3: Noise baseline survey results [TR010060/APP/6.3].</p> <p>The prediction of how the noise environment would change and the assessment of effects from this change is provided within Sections 12.9 and 12.11 of Chapter 12. This includes during the construction and operation phase.</p> <p>Mitigation measures are described in Section 12.10 of Chapter 12.</p>

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	<p>assessment of any likely impact on health and well-being where appropriate, and noise-sensitive areas</p> <p>f likely to cause disturbance, an assessment of the effect of underwater or subterranean noise</p> <p>measures to be employed in mitigating the effects of noise - applicants should consider using best available techniques to reduce noise impacts</p>	<p>The noise assessment presented in Chapter 12 is considered to be proportionate to the scale of the proposed scheme.</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] has not identified any likely significant noise and vibration effects as a result of the proposed gas main diversion.</p>
5.13 Socio-economic impacts	5.13.2 Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES (see Section 4.2).	<p>A business case has been prepared for the proposed scheme in line with the Treasury Green Book Principles and Department for Transport TAG guidance. The results gathered for the Economics Case are presented in The Economic Appraisal Package Report, submitted as Appendix D to the Combined Modelling and Appraisal Report (ComMA) [TR10060/APP/7.3], which demonstrates that economic appraisal of the proposed scheme has been prepared in accordance with the 'Green Book' - Appraisal and Evaluation in Central Government and explains that the appraisal covers the economic, environmental and social impacts of the proposed scheme. It concludes that, taking account of the wider impacts of the proposed scheme and journey time reliability benefits, the proposed scheme will deliver an adjusted benefit cost ratio (BCR) of 1.7. This means that for every £1 spent on the proposed scheme there will be around £1.70 returned to society in benefits.</p> <p>In addition, an assessment has been made of potential cumulative impacts from the proposed scheme on the socio-economic aspects of housing and access to</p>

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		<p>services, facilities, employment, education, and skills. This assessment has been made in recognition that there are several nationally significant infrastructure projects in the region beyond the population and human health study area, which may contribute to potentially significant cumulative impacts for the proposed scheme. Chapter 16: Cumulative effects, of the Environmental Statement (ES) [TR010060/APP/6.1] assesses the significance of cumulative effects for both the construction and operation phases of the scheme.</p>
5.14 Traffic and transport	<p>5.14.3 If a project is likely to have significant transport implications, the applicant's ES (see Section 4.2) should include a transport assessment, using the NATA/WebTAG127 methodology stipulated in Department for Transport (DfT) guidance, or any successor to such methodology. Applicants should consult the Highways England and Highways Authorities as appropriate on the assessment and mitigation.</p>	<p>Transport impacts, including on local roads, have been assessed in Sections 9.2 and 9.3 of the Transport Assessment [TR010060/APP/7.2]. The contents of this report have been subject to discussion with local highway and planning authorities.</p>
5.15 Resource and waste management	<p>5.15.6 The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a Site Waste Management Plan. The arrangements described and Management Plan should include information on the proposed waste recovery and disposal system for all waste generated by the development, and an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation. The applicant is encouraged to refer to the Waste Prevention Programme for England, and should seek to minimise the volume of waste produced and the volume of waste</p>	<p>Chapter 11: Material assets and waste, of the ES [TR010060/APP/6.1] sets out how waste will be managed during construction and operation. It also details how the design of the proposed scheme would be built to reduce the consumption and disposal of waste and where practicable, the design of the proposed scheme would work towards the ambition of zero avoidable waste in construction. The proposed scheme would aim to maximise its use of recycled materials for construction where feasible.</p>

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	<p>sent for disposal unless it can be demonstrated that this is the best overall environmental outcome. If the applicant’s assessment includes dredged material, the assessment should also include other uses of such material before disposal to sea, for example through re-use in the construction process.</p>	<p>An outline Site Waste Management Plan (SWMP) has been prepared as part of the first iteration of the EMP [TR010060/APP/6.5] to plan, implement, monitor and review waste reduction and management throughout the design and construction of the proposed scheme. The SWMP is a live document, updated at varying points during design and construction. It will be used to quantify waste arisings and facilitate the identification and implementation of waste prevention at the detailed design stage, and the reuse, recycling and other recovery opportunities during the construction stage. The waste hierarchy will be followed as a priority to achieve the best overall environmental outcome, and limit waste generation and disposal to landfill in line with the prevailing national policy targets.</p>
<p>5.16 Water quality and resources</p>	<p>5.16.2 Where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment as part of the ES or equivalent (see Section 4.2).</p>	<p>Water quality and impacts of the gas main diversion upon them are described within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and Appendix 14.1: Water Quality Assessment [TR010060/APP/6.3]. Issues relating to the Water Framework Directive are addressed within Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment [TR010060/APP/6.3]. Groundwater issues are further discussed within Appendix 14.4: Groundwater Assessment [TR010060/APP/6.3].</p>

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2.2 Climate Change Adaptation	2.2.3 All buildings in flood risk areas can improve their preparedness to reduce costs and disruption to key public services when a flood happens. Where infrastructure is not better protected as part of a wider community scale flood defence scheme, those who own and run infrastructure sites – whether in public or private hands – are expected to take action to keep water out, minimise the damage if water gets in through flood resilient materials, and reduce the disruption caused. This includes effective contingency planning to mitigate the impacts of flooding on the delivery of important services.	<p>The design of the scheme as a whole and of the gas main diversion in particular have been developed taking into account the potential implications of climate change such as resilience to flooding and high temperatures.</p> <p>The EIA process has considered the effects of possible future changes in climate over a 60-year appraisal period and potential impacts of these climatic changes have been assessed in Chapter 15: Climate, of the Environmental (ES) Statement [TR010060/APP/6.3].</p> <p>The drainage design has been developed taking into account future potential increases in flooding, whilst the impacts have been considered in Appendix 14.5: Flood Risk Assessment (FRA) [TR010060/APP/6.3]. The guidance on climate change allowances has been used (Environment Agency (2021) Flood risk assessments: climate change allowances).</p> <p>Mitigation measures with regards to climate change are secured in the Register of Environmental Actions and Commitments (REAC) within the first iteration of the Environmental Management Plan (EMP) [TR010060/APP/6.5].</p>

DRAFT EN-4 Paragraph/ Section	Relevant NPS EN-4 text/summary	Compliance with the Energy NPS
2.2 Climate Change Adaptation	2.2.5 The Secretary of State must expect that climate change resilience measures will form part of the relevant impact assessment in the Environment Statement (ES) accompanying an application. For example, future increased risk of flooding should be covered in the flood risk assessment.	The EIA process has considered the effects of possible future changes in climate over a 60-year appraisal period and potential impacts of these climatic changes have been assessed in Chapter 15: Climate, of the ES [TR010060/APP/6.1].
2.3 Consideration of “good design” for Energy Infrastructure	2.3.1 The Planning Act 2008 requires the Secretary of State to have regard, in designating an NPS, to the desirability of good design. Section 4.6 of EN-1 sets out the criteria for good design that should be applied to all energy infrastructure.	<p>The gas main diversion is part of a number of utilities being diverted by the respective statutory undertakers. These diversions are subject to feasibility studies and preliminary design carried out by the statutory undertakers (as defined in the New Road and Street Works Act 1991). The gas main diversion currently has a draft scheme and budget estimate, this has formed the basis of the information presented in this application.</p> <p>As part of the development of the proposed scheme the Applicant carried out a Gas Main Screening Report available at Appendix 5.2 of the ES [TR010060/APP/6.3] where an initial desk assessment of the possible environmental effects is captured. The Case for the Scheme (CftS) [TR010060/APP/7.1] includes a gas main diversion statement which explains the characteristics of the pipeline, the need for its diversion and work done to identify possible routes. This section also contains details of the diverted pipeline in accordance with regulation 6(4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.</p> <p>Chapter 5: Environmental assessment methodology of the ES [TR010060/APP/6.1] sets out the assessment methodology and approach taken to prepare the EIA.</p>

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		Chapter 5 also includes details of how the proposed scheme has been assessed where information was not available to inform the assessment. In addition, each of the topic chapters of the ES gives a description of the assumptions made and the limitations of the assessment in relation to the proposed scheme as a whole and the gas main diversion.
2.4	Hazardous substances	This section is not relevant to the Cadent gas main diversion or the proposed scheme.
2.5	Control of Major Accident Hazards	This section is not relevant to the Cadent gas main diversion or the proposed scheme.
2.6	Borehole Sites	This section is not relevant to the Cadent gas main diversion or the proposed scheme.
2.7 to 2.18	Underground Natural Gas Storage, Liquified Natural Gas Import Facilities and Gas Reception Facilities	This section is not relevant to the Cadent gas main diversion or the proposed scheme.
2.19 Gas and Oil Pipelines	2.19.3 The applicant should submit an ES including an assessment of the impact of the project (see section 4.2 of EN-1).	The gas main diversion is an ‘EIA development’ because it is of a type of development listed within schedule 2, regulation 3(1), part 3(b) (energy industry) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) and could generate significant environmental effects by virtue of its nature, scale and location. The gas main diversion is therefore subject to mandatory EIA procedures as set out in those Regulations. The EIA screening exercise is provided in Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3].

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		<p>In accordance with paragraph 2.19.3 of EN-4 an EIA has been undertaken which describes and assesses the effects of the gas main diversion on humans, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage. The findings of the EIA are presented in the ES [TR010060/APP/6.1] which includes a description of the gas main diversion, the likely significant environmental effects, the measures to avoid, reduce, or offset such effects and the alternatives considered. Combined effects of the different aspects are reported within individual chapters of the ES in accordance with Chapter 5: Environmental assessment methodology (TR10060/APP/6.1).</p>
<p>2.19 Pipeline Safety</p>	<p>2.19.6 In the pipeline industry there are well established standards, covering design, operation and maintenance of major accident hazard pipelines which can be used to demonstrate risks are ALARP. If a pipeline operator wishes to use other standards, recommendations, or guidance then this should be discussed with the HSE and may be acceptable to the HSE, provided that the pipeline operator can demonstrate that they achieve at least the equivalent levels of safety. A gap analysis should be undertaken to confirm this.</p>	<p>Detailed designs are to be carried out by Cadent Gas Limited, or their designers on their behalf, and will be in accordance with established industry standards and specifications, which will include relevant risk assessments, and be subject to appropriate approvals and appraisals.</p> <p>Wherever further engagement is required with HSE with regard gas pipeline design and/or operation this will be entered into by Cadent Gas Limited during the early stages of Detailed Design.</p>
<p>2.19. Factors influencing site selection by applicant</p>	<p>2.19.8 When designing the route of new pipelines applicants should research relevant constraints including proximity of existing and planned residential properties, schools and hospitals, railway crossings, major road crossings, below surface usage and proximity to environmentally sensitive areas, main river and</p>	<p>The impact of the gas main diversion has been assessed and discussed in each of the topic Chapters 6 to 16 of the ES [TR010060/APP/6.1]. This includes the existing</p>

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	<p>watercourse crossings. These can be undertaken by means of desk top studies in the first instance, followed up by consulting the appropriate authority, operator, or conservation body if necessary.</p>	<p>baseline environment as well as reporting the potential impacts in combination with planned development.</p>
<p>2.19 Factors influencing site selection by applicant</p>	<p>2.19.10 When choosing a pipeline route, applicants should seek to avoid or minimise adverse effects from usage below the surface. Where it is not considered practicable to select a route that avoids below surface usage, applicants should demonstrate in the ES that mitigating measures will be put in place to avoid adverse effects both on other below ground works and on the pipeline. Mitigating measures may include: protection or diversion of underground services; gas detection near landfill sites; horizontal direct drilling (HDD) techniques and rerouting. Contaminated material may need to be removed and disposed of.</p>	<p>The preferred route of the Cadent gas main diversion has been developed whilst considering the functionality, infrastructure, and environmental constraints. Effects below the surface are assessed within Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1] which considers land contamination (effects on human health, surface water and groundwater). Mineral resources are covered in Chapter 11: Material assets and waste, of the ES [TR010060/APP/6.1]. A complete list of mitigation measures is presented in the (REAC) within the first iteration of the EMP [TR010060/APP/6.5].</p>
<p>2.20 Gas and Oil Pipelines Impacts: Noise and Vibration</p>	<p>2.20.2 During the pre-construction phase there could be vibration effects from seismic surveys. During construction, tasks may include site clearance, soil movement, ground excavation, tunnelling, trenching, pipe laying and welding, and ground reinstatement. In addition, increased HGV traffic will be generated on local roads for the movement of materials. These types of noise and vibration impacts will need to be assessed.</p>	<p>A description of the existing situation is contained within Section 12.8 of Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1].</p> <p>The noise sensitive premises are identified within section 12.8 of Chapter 12 and are shown on Figure 12.2: Noise sensitive receptors [TR010060/APP/6.2].</p> <p>The characteristics of the existing noise environment are described within Section 12.8 of Chapter 12 and within Appendix 12.3: Noise baseline survey results [TR010060/APP/6.3].</p> <p>The prediction of how the noise environment would change and the assessment of effects from this change is</p>

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		<p>provided within Sections 12.9 and 12.11 of Chapter 12. This includes during the construction and operation phase.</p> <p>Mitigation measures are described in Section 12.10 of Chapter 12 and summarised in the first iteration of the EMP [TR010060/APP/6.5].</p>
2.20 Gas and Oil Pipelines Impacts: Noise and Vibration	2.20.5 The ES should include an assessment of noise and vibration effects (see Section 5.12 of EN-1) including the specific issues outlined above, where they are relevant.	The prediction of how the noise environment would change and the assessment of effects from this change are provided within Sections 12.9 and 12.11 of Chapter 12 of the ES [TR010060/APP/6.1]. This includes during the construction and operation phase.
2.21 Gas and Oil Pipelines Impacts: Biodiversity, Landscape and Visual	2.21.3 The ES should include an assessment of the biodiversity and landscape and visual effects of the proposed route and of the main alternative routes considered (see Section 5.10 of EN-1). The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work. Where it is unlikely to be possible to restore landscape to its original state, the applicant should set out measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape	The qualitative assessment in Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] shows that one aspect is likely to give rise to likely significant effects as a result of the gas main diversion; landscape and visual. This is due to the loss of trees and woodland, which would impact the landscape character of the River Blackwater valley, open up views across the Blackwater River Valley towards the A12, and result in loss of lowland mixed deciduous woodland habitat. There would be permanent loss of willow plantation west of the River Blackwater, which is a distinctive characteristic feature of this landscape. It would not be appropriate to plant vegetation other than that permitted within Cadent's standards and specifications: trees are generally excluded from planting within the pipeline easement.
2.21 Gas and Oil Pipelines Impacts:	2.21.4 The Secretary of State should follow the principles for decision making set out in Sections 4.3 and 5.9 of EN-1.	Section 9.8 of Chapter 9: Biodiversity, of the E [TR010060/APP/6.1] identifies the sites designated under

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Biodiversity, Landscape and Visual		<p>the Habitats and Species Regulations which could be impacted by the proposed scheme.</p> <p>Section 9.11 of Chapter 9 and Appendix 9.8: Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.3] describes the significant effects on internationally, nationally and locally designated sites of ecological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity.</p> <p>The Applicant has sought the advice of Natural England throughout the development of the proposed scheme. A Stage 1 Screening Assessment concluded that no likely significant effects on any sites within the National Site Network are anticipated when considered alone or in combination with other plans and projects. The response received from Natural England is contained in Appendix D of the Habitats Regulation Assessment No Significant Effects Report [TR010060/APP/6.8] which states that they are in agreement with the assessment.</p> <p>Given that no likely significant effects were identified to any internationally significant sites, an Appropriate Assessment was not required.</p> <p>Section 8.11 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers likely significant landscape effects during both construction and operation. In line with DMRB LA107, the effect on the constituent landscape features and elements/components of the LCAs</p>

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		have been considered in combination as part of the effects on landscape character and not as individual receptors.
2.22 Gas and Oil Pipelines Impacts; Water Quality and Resources	2.22.3 Where the project is likely to have effects on water resources or water quality, for example impacts on groundwater recharge or on existing surface water or groundwater abstraction points, or on associated ecological receptors, the applicant should provide an assessment of the impacts in line with Section 5.16 of EN-1 as part of the ES.	<p>Water quality and impacts of the gas main diversion upon them are described within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and Appendix 14.1: Water Quality Assessment [TR010060/APP/6.3]. Issues relating to the Water Framework Directive are addressed within Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment [TR010060/APP/6.3]. Groundwater issues are further discussed within Appendix 14.4: Groundwater Assessment [TR010060/APP/6.3].</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] reported that no significant effects on water quality and resources would occur from the proposed gas main diversion.</p>
2.22 Gas and Oil Pipelines Impacts; Water Quality and Resources	2.22.5 The Secretary of State should be satisfied that the impacts on water quality and resources are acceptable in accordance with Section 5.16 of EN-1. The Secretary of State should liaise with the EA/NRW/Scottish Environment Protection Agency (SEPA) over the potential for the new development to result in loss or reduction of supply to any licensed abstraction or unlicensed groundwater abstraction, or any potential interference with current legitimate uses of groundwater or surface waters, taking account of the terms of any relevant environmental permits or any negative effect on a groundwater dependent ecosystem.	<p>The Consents, Licences and Agreements Position Statement [TR010060/APP/3.3] sets out National Highways' intended strategy for obtaining the consents and associated agreements needed to implement the proposed scheme. It details the applications that will be made on behalf of the proposed scheme to the Environment Agency and Essex County Council as the Lead Local Flood Authority.</p> <p>Water quality and impacts of the gas main diversion upon them are described within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and</p>

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		<p>Appendix 14.1: Water Quality Assessment [TR010060/APP/6.3]. Issues relating to the Water Framework Directive are addressed within Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment [TR010060/APP/6.3]. Groundwater issues are further discussed within Appendix 14.4: Groundwater Assessment [TR010060/APP/6.3].</p>
<p>2.23 Gas and Oil Pipelines Impacts; Soil and Geology</p>	<p>2.23.2 Applicants should assess the stability of the ground conditions associated with the pipeline route and incorporate the findings of that assessment in the ES (see Section 4.2 of EN-1) as appropriate. Desktop studies, which include known geology and previous borehole data, can form the basis of the applicant's assessment. The applicant may find it necessary to sink new boreholes along the preferred route to better understand the ground conditions present. The assessment should cover the options considered for installing the pipeline and weigh up the impacts of the means of installation. Where the applicant proposes to use HDD as the means of installing a pipeline under a National or International Site¹⁶ and mitigating the impacts, the assessment should cover whether the geological conditions are suitable for HDD.</p>	<p>An assessment of geology and soils is reported in Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1]. This chapter discusses the ground conditions of land within the order limits, including the gas main diversion.</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] reported that no significant effects on geology and soils would occur from the proposed gas main diversion.</p>
<p>2.23 Gas and Oil Pipelines Impacts; Soil and Geology</p>	<p>2.23.5 The Secretary of State should take into account the impact on and from geology and soils when considering a pipeline project. A proposal will be acceptable from the point of view of soil and geology if the applicant has proposed a route and other measures (if applicable) that either eliminates any adverse impacts on soil and geology or reduces them to an acceptable level, and that the route chosen does not adversely affect the integrity of the pipeline,</p>	<p>An assessment of geology and soils is reported in Chapter 10: Geology and soils of the ES [TR010060/APP/6.1]. This chapter discusses the ground conditions of land within the order limits, including the gas main diversion.</p> <p>Appendix 5.2: Gas main diversion screening assessment [TR010060/APP/6.3] reported that no significant effects on</p>

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	<p>for example, by increasing materially the risk of fracture or impact on areas of high population. The HSE can advise on the suitability of the pipeline route and on the design of the pipeline.</p>	<p>geology and soils would occur from the proposed gas main diversion.</p>
<p>2.23 Gas and Oil Pipelines Impacts; Soil and Geology</p>	<p>2.23.6 Where the applicant has considered and discounted a route or routes on the ground that the soil is unstable and susceptible to landslip, the Secretary of State should consult the HSE for their views on its suitability and its impact on the integrity of the pipeline.</p>	<p>Some of the potential gas main diversion routes (1, 2 and 3) were discounted as they would have crossed an existing historic landfill (where Whetmead Local Nature Reserve is located). When measured against industry standards, these routes were found to pose unacceptable levels of risk in terms of contamination, corrosion, explosion and subsidence.</p> <p>Detailed designs are to be carried out by Cadent Gas Limited, or their designers on their behalf, and will be in accordance with established industry standards and specifications, which will include relevant risk assessments, and be subject to appropriate approvals and appraisals.</p> <p>Wherever further engagement is required with HSE with regard gas pipeline design and/or operation these will be entered into by Cadent Gas Limited during the early stages of Detailed Design.</p>