The Peak Cluster Report

A comprehensive briefing on the proposed Peak Cluster CCS Pipeline (Planning Inspectorate reference EN0710001)

Version 1.2 — September 2026

This report is unattributed by design. It takes no position on whether carbon capture and storage, or the Peak Cluster pipeline, is appropriate in this case; it sets out what is established, what is uncertain or not yet disclosed, and the tests against which the eventual application will be judged, with references throughout so that every statement can be checked. Section 1 explains why it exists and how to use it; Section 28 explains how to validate it. For general information only; not legal, engineering or financial advice.

Status. Version 1.2, 11 September 2026, compiled from Parts A to F issued between 8 and 10 September 2026 and revised on 11 September 2026 following independent validation runs on versions 1.0 and 1.1 (the changes are listed at the head of Appendix I). Statements of law, policy and project status are as at 11 September 2026 unless a different date is given; the dates that matter most — EN-1 in force 6 January 2026, SI 2026/185 in force 6 April 2026, the Planning Act consultation reforms in force 24 July 2026 — are stated where they apply. Later versions will carry a new version number and date, and Appendix I records what changed and what remains to be verified.

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Part A — Orientation

Contents of this Part. Section 1 — Why this report exists. Section 2 — Key facts on one page. Section 3 — The project and the promoter. Section 4 — Route, corridor and what would be built. Appendix A — The corridor by district and parish. Appendix B — Project chronology, 2021 to date.

Conventions used in this Part. “The applicant” means Peak Cluster Limited. “The Inspectorate” means the Planning Inspectorate. Company statements — the applicant’s factsheets, website and press releases, and those of its shareholders and of Spirit Energy — are labelled as such and are not treated as verified fact; the Inspectorate’s meeting notes and Scoping Opinion, Companies House filings, Hansard and Government publications are primary sources. Press reports are used only for events and are labelled. Figures marked *(derived)* are calculated for this report from stated assumptions. **Key findings are set in bold** so that they are not lost in the detail; the emphasis marks importance, not certainty.

Section 1 — Why this report exists

1.1 The starting point

Government policy in the United Kingdom is based on evidence that the climate is changing, that greenhouse-gas emissions are driving that change, and that reducing those emissions — of carbon dioxide above all — is a pressing public objective. That policy is set out in statute, in the Climate Change Act 2008 and its net zero target for 2050 [4], and in the national policy statements that will govern the decision on this project (Section 17). The report is aware that there are differing views on the validity of the evidence on which that policy rests, and it does not seek to persuade anyone of either view. Those differing views do not change the fact that solutions to the control of CO_2 emissions are being explored, funded and brought forward for consent, and that this proposal is one of them; it will be decided on the policy as it stands, and a reader who wishes to engage with it has to engage with it on that footing. The report takes no position on the underlying science and simply assesses the proposal at hand.

The cement and lime industries have a particular place in that policy, because they face a problem other sectors do not: some 60–70% of the CO_2 from a cement or lime kiln comes from the chemistry of turning limestone into lime, not from the fuel, so it cannot be removed by changing the fuel alone [1][2]. That is why carbon capture is discussed for those industries at all, and why the question this report addresses is a serious one whatever the reader's view of the wider debate.

1.2 Why an objective view is needed

The Peak Cluster proposal is a specific answer to that problem: a pipeline of about 195 km (the applicant's Scoping Report figure; its factsheets say "around 200 km") [3] from the cement and lime works of the Peak District and Staffordshire Moorlands, across Cheshire, to a landfall on the north Wirral coast, and from there to a storage site beneath the East Irish Sea. Whether it is a good answer depends on things particular to it — where the CO_2 is produced, where it is proposed to go, what lies in between, what the CO_2 could otherwise be used for, what the transport alternatives are, what the pipeline would carry and at what pressure, what it would cost and who would pay, and how the planning system will decide. Those are questions of geography, engineering, economics and law, and each has an answer that can be found in the public record or derived from it. This report tries to find those answers and set them out, with their sources, so that a reader can form a view on evidence rather than on assertion from either direction.

1.3 What is challenged, and what is not

Two assumptions are commonly made, in opposite directions, and this report accepts neither without examination. The first is that carbon capture and storage is the only, or the optimal, or even a viable, way to reduce emissions from these works, and that a pipeline to an offshore store is the necessary form of it. The second is that it is none of those things. Both are conclusions, and both can only be reached by looking at the evidence: the size of the UK market for CO_2 and what capture for re-use could realistically displace; what rail, road and ship could carry, at what cost, with what infrastructure; where the works are and where the store is, and whether that geography makes a pipeline the natural answer or a difficult one; what the applicant's own documents say the pipeline would be; and what the national policy framework requires the decision-maker to weigh. The report sets those matters out and, where the evidence points in a direction, says so. Where the evidence is incomplete — and much of it is, because the applicant has not yet published the material an examination will require — the report says that too, and says what is missing.

1.4 What this report does not do

This report does not take a position on whether carbon capture and storage, or the Peak Cluster pipeline, is appropriate in this case. It is written from a position of neutrality, for readers — councillors, parish councils, community groups, landowners, and anyone else with a reason to engage — who will have to form their own view and, in many cases, put it to the applicant or the Planning Inspectorate in a form the planning system can act on. It is not an objection, and it is not a case for the scheme. It does explain how the consenting process works and how a participant — of

any view — can take part in it effectively; that is guidance on procedure, not on outcome, and it is the same for a parish that supports the scheme as for one that opposes it. It identifies the facts that are established, the facts that are uncertain or contested, the facts that the applicant has not yet disclosed, and the legal and policy tests against which the eventual application will be judged. It marks its own derived figures as derived and states their assumptions. It labels company, trade-body and press statements as such. Where it quotes, it quotes verbatim and gives the source. It is, deliberately, unattributed; Section 28 explains why, and how a reader can test it without relying on the author's identity.

1.5 The purpose of the questions

Each section ends with questions the reader may wish to put — to the applicant, to the Inspectorate, to the host local authority, to a regulator, or to the parish council itself. They are not rhetorical, and they are not an argument in disguise. They are the questions whose answers are needed before a balanced and objective decision can be made, by the reader now and by the Secretary of State in due course. Many of them are questions the applicant will have to answer in its Environmental Statement and at examination in any event; asking them earlier, in writing and on the record, makes the eventual answers more likely to be complete. A reader who finds the answers to be satisfactory should say so; a reader who finds them wanting has, in the question and the answer, the material for a representation on the right subject in the right form (Section 21).

1.6 How the report is organised

Part A orients the reader: the project, the promoter, the route and what would be built. Part B deals with carbon dioxide as a hazard — what is physically different about a CO_2 pipeline, what the incident record shows, and how the safety and land-use planning regimes now treat it. Part C deals with the CO_2 economy — who uses CO_2, what capture for re-use could realistically achieve, how the transport modes compare when capital and utilisation are properly accounted for, what the rail network could carry, and where the CO_2 would be stored and under whose control. Part D deals with policy, funding and economics. Part E deals with the planning and regulatory landscape — the Development Consent Order process as it stands after the reforms of July 2026, who regulates what, what councils and parishes can do, land access and compensation, how to make an effective representation, alternatives, and the environmental effects to be assessed and the controls after consent. Part F deals with what happens next, how to stay informed, and how to validate this report. Each section stands on its own, with its own references, and can be read without the others.

1.7 How to use this report

The report is long because the subject is, and no reader is expected to read it through. It is built so that it can be used in three ways.

As general background. Section 2 (key facts on one page) and the "Why this matters locally" opening of each section give the shape of the whole in an hour. The bold sentences throughout are the findings the compiler would least like a reader to miss; read in sequence they are a summary of the report. The front matter of each Part sets out the conventions used in it.

As a reference on a particular question. Each section stands alone. It follows the same pattern — why the subject matters locally; what is established; what is uncertain, contested or not yet disclosed; questions the reader may wish to put; references — so that a reader who wants only the hazard (Part B), only the transport alternatives (Part C), only the planning process (Part E) or only what to do next (Part F) can go straight there and find the sources for everything said. Cross-references point to the section where a related matter is dealt with in more depth; the index at the front lists every section and appendix; the glossary (Section 26) explains the terms and acronyms; and the question bank (Section 25) collects every question in the report in one place, by addressee.

As material for engagement. A parish council preparing a response, a councillor briefing colleagues, or a resident writing to the applicant or the Inspectorate can take a section's "questions" and "what is uncertain" lists as they stand, with the references, and Section 21 explains the form in which such material carries weight. Appendix H offers templates.

Whichever way the report is used, the reader is asked to remember Section 28. The report is unattributed by design, and its reliability rests on its being checkable; Section 28 explains the referencing conventions and sets out a method, using any AI assistant of the reader's choosing, by which the quotations, figures and legal statements in any Part can be tested against their sources in minutes. A reader who intends to rely on a section — in a meeting, a letter or a representation — is encouraged to run that check on it first, and to tell the compiler, through whoever supplied the report, of anything found wanting so that it can be corrected in the next issue.

1.8 References

1. International Energy Agency and Cement Sustainability Initiative, *Technology Roadmap: Low-Carbon Transition in the Cement Industry*, April 2018 (process emissions "60–70%" of cement-plant CO_2). https://iea.blob.core.windows.net/assets/cbaa3da1-fd61-4c2a-8719-31538f59b54f/TechnologyRoadmapLowCarbonTransitionintheCementIndustry.pdf
2. Mineral Products Association Lime, *Lime Net Negative 2040 Roadmap*, 2023 (trade-body publication: process emissions "60 to 70%" for lime). https://www.mineralproducts.org/MPA/media/root/Publications/2023/Lime_Net_Negative_2040_Roadmap.pdf
3. Peak Cluster Ltd, *EIA Scoping Report, Volume 1*, EN0710001-000013, January 2026, paragraph 3.2.67; Planning Inspectorate, Peak Cluster CCS Pipeline (EN0710001) project page and document register. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001
4. Climate Change Act 2008, section 1 (the net zero target, as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019, SI 2019/1056). https://www.legislation.gov.uk/ukpga/2008/27/section/1

Section 2 — Key facts on one page

2.1 The project in ten lines

1. **What.** A buried steel pipeline of “approximately 195 km” (the applicant’s factsheets say “around 200 km”) to carry carbon dioxide captured at four cement and lime works in the Peak District and Staffordshire Moorlands to a compression site on the north Wirral coast, and from there by up to two 42-inch pipelines to a store beneath the East Irish Sea [1][2].
2. **Who.** Peak Cluster Limited (company 15286950, incorporated 15 November 2023), owned by the National Wealth Fund (more than 25% but not more than 50%), a Sumitomo/Progressive Energy joint venture, and the four producers — Tarmac, Breedon, Holcim and SigmaRoc (Buxton Lime) [3][4][5]. The offshore store, Morecambe Net Zero, is a separate project of Spirit Energy (Centrica 69%, Stadtwerke München 31%) under carbon-storage licence CS010 [6][7].
3. **Where from.** Breedon’s Hope cement works (Peak District National Park); Tarmac’s Tunstead cement works and SigmaRoc’s Buxton Lime works, both at Tunstead near Buxton; Holcim’s Cauldon cement works near Waterhouses, Staffordshire [2].
4. **How much.** “Over 3 million tonnes” of CO_2 a year, per the applicant, from 2032 on its January 2026 programme and March 2026 factsheets — though its “Your questions answered” page states “From 2030”; which is current is not stated [2][10]. The National Wealth Fund describes “up to 6.6 Mtpa CO_2 pipeline capacity” [8].
5. **What the pipe carries.** Up to 36-inch diameter; the applicant’s Scoping Report says the onshore trunk would carry CO_2 “in a gas phase”, with dense phase contemplated only for the short coastal section “in later years”; the operating pressure has not been published (Part B, Section 5) [1].
6. **Consenting route.** A Development Consent Order under the Planning Act 2008, decided by the Secretary of State for Energy Security and Net Zero after examination by the Planning Inspectorate; the national policy statement treats CCS pipelines as “critical national priority” infrastructure (Part E, Section 17) [15].
7. **Stage.** Pre-application. EIA scoping completed 19 February 2026; Phase 1 consultation 12 January to 27 February 2026; Phase 2 engagement promised for late 2026; application “expected to be submitted September 2027”; decision indicatively early 2029; construction from 2029; operation from 2032 [9][10][2].
8. **Government status.** Not one of the Government’s sequenced CCUS clusters; “not in receipt of funding from the Department”; “no decision has been taken on future government support” (Minister, written answer, 17 July 2026) [11]. The National Wealth Fund’s £28.6 million was the cornerstone of a £59.6 million equity raise in July 2025 [4].
9. **Cost.** “Around £5 billion” of investment “with MNZ”, per the applicant and Spirit Energy; no cost for the onshore pipeline alone has been published; the Department “does not hold this information” [2][12][13].
10. **Safety classification.** Since 6 April 2026 a CO_2 pipeline for CCS “in any fluid state” is a major accident hazard pipeline under the Pipelines Safety Regulations, bringing HSE notification, a major accident prevention document, a county emergency plan and land-use planning zones (Part B, Sections 7–8) [14].

2.2 Five things to know before any meeting with the applicant

First, the statutory consultation duties were repealed on 24 July 2026. There is no longer a statutory consultation window, no consultation report, and no adequacy-of-consultation test at acceptance. What the applicant does before September 2027 is at its discretion; what counts is the record created for the examination (Part E, Sections 17 and 21).

Second, the route is not fixed and the alternatives have not been published. The applicant told the Inspectorate in July 2024 that two eastern corridor options existed; neither, nor the comparison, has been published, and the applicant said in July 2026 that the corridor “remains under review and development” (Part E, Section 22).

Third, the pipeline the applicant has described is a gas-phase pipeline. That matters for the hazard, the capacity and the economics, and it may not be what is examined: if later conversion to dense phase is part of what consent is sought for, the Environmental Statement will need to assess that case and the Order's parameters will need to cover it, so the dense-phase case is the one to ask about now (Part B, Section 5).

Fourth, no body in the planning process can require the applicant to answer questions before it applies — not the Inspectorate and not the council; HSE's role begins when the pipeline is notified to it. Questions put in writing, copied to the Inspectorate, are the way to put them on the record (Part E, Section 18).

Fifth, the decision will be made under a policy that treats the need as settled and expects consent "in all but the most exceptional cases" once the applicant has met the policy's requirements. A representation that says only that the pipeline is unwanted, unsafe or unnecessary is one the decision-maker cannot act on; one that engages the tests the decision-maker must apply — safety within the regulatory regime, alternatives, compulsory acquisition, the National Park, specific effects and specific requirements — is one it must weigh (Part E, Section 21).

2.3 References

1. Peak Cluster Ltd, *Peak Cluster CCS Pipeline EIA Scoping Report, Volume 1*, DOC-W05-014, EN0710001-000013, January 2026, paragraphs 3.2.67 and 3.2.127–3.2.128. https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0710001-000013-EN0710001_Peak%20Cluster%20EIA%20Scoping%20Report_Volume%201_DOC-W05-014_FINAL.pdf
2. Peak Cluster, *Factsheet 1: About Peak Cluster* and *Factsheet 2: About the pipeline*, March 2026; "Your questions answered" (company statements). https://peakcluster.co.uk/your-questions-answered/
3. Companies House, Peak Cluster Limited (15286950): company overview, officers and persons with significant control. https://find-and-update.company-information.service.gov.uk/company/15286950
4. National Wealth Fund, "National Wealth Fund invests in Peak Cluster to secure a resilient future for cement and lime manufacturing in the UK", 7 July 2025. https://www.nationalwealthfund.org.uk/news-and-publications/news/national-wealth-fund-invests-in-peak-cluster-to-secure-a-resilient-future-for-cement-and-lime-manufacturing-in-the-uk/
5. Sumitomo Corporation, "Investment in CO2 transportation pipeline project to decarbonize UK cement and lime industry", 8 July 2025 (company statement). https://www.sumitomocorp.com/en/jp/news/topics/2025/group/20250708
6. North Sea Transition Authority, Carbon Dioxide Appraisal and Storage Licence CS010, Spirit Energy Production UK Limited, start date 1 July 2023. https://www.nstauthority.co.uk/media/cdsnx20u/cs010-spirit-energy-production-uk-limited-carbon-dioxide-appraisal-and-storage-licence-appraisal-term-accessible-version.pdf
7. Centrica plc, "Spirit Energy welcomes licence award for world-leading carbon storage facility", 18 May 2023 (company statement). https://www.centrica.com/media-centre/news/2023/spirit-energy-welcomes-licence-award-for-world-leading-carbon-storage-facility/
8. National Wealth Fund, *Peak Cluster: deal factsheet*, July 2025. https://www.nationalwealthfund.org.uk/media/si2kmxka/peak-cluster-factsheet-22d2797735934fcdb4b27ebc5895af84.pdf
9. Planning Inspectorate, Peak Cluster CCS Pipeline (EN0710001) project page. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001
10. Peak Cluster, *Project Guide*, January 2026, and *Programme Document (Pre-Application)*, version 01, January 2026 (company statements). https://peakcluster-consultation.co.uk/documents/Peak%20Cluster%20Project%20Guide%20January%202026.pdf ; https://peakcluster-consultation.co.uk/files/Peak%20Cluster%20Programme%20Document%20Pre-Application%20(PINS).pdf

11. House of Commons, written question UIN 16872 (Esther McVey MP), answered 17 July 2026 by the Minister for Energy. https://questions-statements.parliament.uk/written-questions/detail/2026-07-08/16872
12. Centrica plc, “Major milestone for MNZ Peak Cluster CCS project”, 9 June 2026 (company statement). https://www.centrica.com/media-centre/news/2026/major-milestone-for-mnz-peak-cluster-ccs-project/
13. House of Commons, written question UIN 1151, answered 22 May 2026. https://questions-statements.parliament.uk/written-questions/detail/2026-05-14/1151
14. The Carbon Capture Utilisation and Storage and Offshore Hydrogen Production (Miscellaneous Amendments) Regulations 2026, SI 2026/185, regulation 4 (inserting paragraph 9A into Schedule 2 to the Pipelines Safety Regulations 1996), in force 6 April 2026. https://www.legislation.gov.uk/uksi/2026/185/made
15. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (EN-1)*, 2025 revision, published 6 January 2026, paragraphs 3.5.7 and 4.1.7. https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage

Section 3 — The project and the promoter

3.1 Why this matters locally

A reader who is asked to engage with “Peak Cluster” is dealing with several things that share a name: a company that will apply for the Order and, if it is granted, own and operate the pipeline; four industrial businesses whose works would be connected to it and whose emissions are its reason for existing; a Japanese trading house and a UK development company that own part of it; a public investment body that owns another part; and a separate company, with different owners, that would receive the CO_2 offshore under a separate licence and separate consents. Who is responsible for what — for answering questions, for funding, for the store the pipeline depends on, for the compulsory acquisition case — follows from that structure, and so does what happens if any part of it changes. This section sets the structure out from the public record: the company registry, the promoter’s own statements, the Inspectorate’s meeting notes and the Government’s answers to Parliament.

3.2 What is established

The company

Peak Cluster Limited was incorporated on 15 November 2023 as a private company with £1 of capital, registered at the offices of Progressive Energy Limited in Stonehouse, Gloucestershire, with a Progressive Energy vehicle registered as the person with significant control and a single director [1]. Its filings record the transformation of July 2025: six directors appointed on 8 July; the founding director’s resignation the same day; share allotments taking the capital to £7.524 million on 11 July; new articles and a new class of preference shares; and, from 14 July 2025, National Wealth Fund Limited registered as a person with significant control holding “more than 25% but not more than 50%” of the shares and voting rights, with the Progressive Energy vehicle’s control ceasing on the same date [1]. A further allotment on 6 March 2026 took the issued capital to £17.648 million [1]. The accounts filed to 31 December 2025 are dormant-company accounts, so no financial statement of the company’s activity exists on the register [1]. No other person with significant control is registered: **no single shareholder other than the National Wealth Fund holds more than 25%, and the exact shareholdings of the industrial partners and the Sumitomo joint venture have not been published** [1].

The joint venture partner, Summit Progressive Peak Limited (formerly Progressive Energy Peak Limited, renamed 29 August 2025), has been at least 75% owned by Summit Energy Evolution Limited since 8 July 2025; Summit Energy Evolution is in turn at least 75% owned by Sumitomo Corporation of Tokyo, and describes itself as “a wholly owned subsidiary of Sumitomo Corporation” [2][3][4]. The Progressive Energy group, the original developer (previously in control through Progressive Energy Holdings Limited), is understood from Summit’s own statement to hold the minority of the joint-venture vehicle, which itself holds a minority of the applicant; the register does not show the current minority holder [2][4].

The funding

On 7 July 2025 the National Wealth Fund announced a “£28.6m equity investment” as “the cornerstone of a £59.6m equity raise, which also includes investment through a joint venture vehicle between Summit Energy Evolution Ltd (part of Sumitomo Corporation) and Progressive Energy Peak Ltd, as well as each of the Peak Cluster cement and lime producers; Tarmac, Breedon, Holcim and SigmaRoc”; the financing “will be used to further develop the pipeline project through to a Final Investment Decision (FID) as early as 2028” [5]. HM Treasury’s release put the private contribution at £31 million and the total at £59.6 million [6]. The Fund’s own factsheet describes the project as facing “substantial investment barriers and policy uncertainty in the CCUS sector” and lists “up to 6.6 Mtpa CO_2 pipeline capacity” [7]. The applicant’s factsheet states that “the development stage of Peak Cluster is being funded by the project partners and investors, who will take the project through to Final Investment Decision (FID), if planning consent is granted. At this stage, we’ll seek additional investment” [8].

The Government's position, stated to Parliament in May and July 2026, is that the project "is being developed privately by Peak Cluster Ltd, alongside its industry partners", "has not been identified as one of the four Carbon Capture, Usage and Storage (CCUS) clusters for support through the government's CCUS Cluster Sequencing process and is not in receipt of funding from the Department", and that "no decision has been taken on future government support for the Peak Cluster" [9]. The Government "has not committed any funding for the Peak Cluster project, including for the capture facilities and the offshore storage" [10]; asked for the project's projected cost, it answered that it "does not hold this information" [11]. The Minister told the Commons on 15 June 2026 that the National Wealth Fund "made investment independent of my Department, which has not made any funding commitments to the Peak project" [12]. Part D deals with what this means for the business model and for who would ultimately pay.

The people

The company's directors are listed on the register [1]. Its public face has been described inconsistently: the National Wealth Fund's release and the applicant's material name a chief executive; a Centrica release of June 2026 names a different individual as "CEO of Peak Cluster Limited"; and press reports of March 2026 describe the latter as the company's chair [5][13][14]. The founding director who resigned in July 2025 is the person named as chair in those reports [1][14]. The sources name different individuals as chief executive at different dates, which may reflect a change of office; the briefing records the position rather than resolving it.

The capture sources

The applicant names "four major cement and lime producers who will each install carbon capture technology at their sites: Holcim (Cauldon cement plant); Tarmac (Tunstead cement plant); Buxton Lime (Tunstead lime works); Breedon (Hope cement plant)" [8]. The Inspectorate's inception note of January 2024 records the applicant's statement that these facilities "produce 40% of the UK's lime and cement, with total emissions of approximately three million tonnes of CO_2 per year" [15]. What is known of each from the operators' own statements: Cauldon, "between the villages of Cauldon and Waterhouses in Staffordshire", produces "up to 1 million tonnes of cement per annum" with "125 directly employed staff" [16]; Hope, in the Peak District National Park, is described by Breedon as "the UK's largest cement works", producing "around 1.5 million tonnes" of cement a year [17]; Tunstead, at Buxton, is Tarmac's cement works and, on the same site, the lime works acquired by SigmaRoc as Buxton Lime on 18 April 2024 [18][19]. The share of each works in the 3 million tonnes has not been published; nor have verified emissions by site been retrieved for this briefing (Part C, Section 10, uses the aggregate). Some 60–70% of a cement or lime kiln's CO_2 comes from the calcination of limestone rather than the fuel (Section 1), which is why the applicant describes these emissions as ones that "cannot be decarbonised in any other way" [15] — a statement Part C examines.

Changes in the consortium

The membership has changed since launch. The applicant's own announcement of 17 May 2023 stated that "Peak Cluster has been initiated by five cement and lime plants in the Peak District and Staffordshire Moorlands, owned by Tarmac, Breedon, Lhoist and Aggregate Industries, together with the Lostock Sustainable Energy Plant in Cheshire" (Aggregate Industries being Holcim's UK cement business, since renamed), with Progressive Energy as developer [20][21]. The Inspectorate's note of July 2024 records that "Sigma Roc have now joined the project as a new partner" and that both route options "run past the Lostock Energy from Waste plant and can be connected to it at a future date" [21]. The Derbyshire Times reported on 3 February 2026 that "Lhoist UK had planned to join the Derbyshire firms forming the Peak Cluster project, linking the pipeline to its Hindlow facilities near Harpur Hill, but it has now withdrawn, while Buxton Lime has said it does not need a new facility at its Hindlow site, consolidating its Tunstead works" [22]. No statement by Lhoist or by the applicant confirming the withdrawal has been located; the March 2026 factsheets list four producers, not five, which is consistent with the report [8]. **The consortium has lost one lime producer and one energy-from-waste plant since launch; the current four are the basis of the 3 million tonnes.**

The store

The pipeline has no purpose without a store, and the store is not the applicant's. Spirit Energy Production UK Limited holds carbon-storage licence CS010 from the North Sea Transition Authority, with a start date of 1 July 2023 and an appraisal term of four years and six months, over the depleted North and South Morecambe gas fields off Barrow-in-Furness; the licence work programme requires that "by 6 months prior to the end of the Appraisal Term, the Licensee shall make an application for a Storage Permit" — that is, by about the end of June 2027 — accompanied by "a letter from the board of directors of the Licensee confirming that funds have been committed to the development of the storage site" [23]. Spirit Energy is owned 69% by Centrica and 31% by Stadtwerke München [24]. It describes the store's capacity as "1 Gt of CO_2 in its lifetime", with injection to begin "once gas production ceases by the end of the decade" [25][26]. On 9 June 2026 Centrica announced that the Authority had confirmed Spirit's entry to the "Assess Phase" of the licence, "a crucial step towards preparing a permit application" [26]. Part C, Section 13, covers the licence, the permit, the offshore consents and the closure regime.

The two projects are linked by a memorandum of understanding of September 2023 to explore storage [27] and are marketed together as "MNZ Peak Cluster" [26], but they are consented separately: the Inspectorate's Scoping Opinion records that "the Morecambe Net Zero project would be consented separately, however in order to understand the proposed development in its entirety and to enable a robust cumulative assessment, the ES should provide a description of the offshore elements which would connect to the proposed development and explain how the consents would interact" [28]. **Neither project has yet obtained the consent, permit or funding on which the other depends; as matters stand the Order for the pipeline, if granted, would authorise a pipeline to a store that does not yet have a storage permit.** For comparison, the HyNet store in Liverpool Bay obtained its three storage permits and its economic licence together on 24 April 2025, at financial close [29].

Adjacent projects

The corridor's western half runs through an area with two other CO_2 projects: HyNet's CO_2 pipeline from Stanlow through Flintshire to the Point of Ayr and Liverpool Bay, consented in March 2024 and at financial close since April 2025 [29][30][31], and the Protos and Stanlow capture projects that feed it. The Inspectorate has required the Environmental Statement to assess cumulative effects with "projects located in Wales, such as those within the Flintshire and Wrexham authority areas" [28]; Wirral Council's scoping response asked that "the Hynet North West Hydrogen pipeline should be considered through optioneering/micro-routing process" [28]. Part C, Section 13, notes that HyNet's storage system is described as starting at 4.5 million tonnes a year with potential for 10 in the 2030s [31].

3.3 What is uncertain, contested or not yet disclosed

- **The shareholdings** in Peak Cluster Limited of the four producers and the Sumitomo joint venture — not published.
- **The project's cost** — no figure for the onshore pipeline has been published; "£5 billion" is the applicant's and Spirit's combined figure for both projects.
- **Whether Lhoist has withdrawn**, and on what terms — press only.
- **The emissions of each works**, and therefore what each contributes to the 3 million tonnes.
- **The storage permit** — not yet applied for; due by mid-2027.
- **Any Government support** — none committed; "no decision has been taken".
- **Who leads the company** — inconsistently described in public sources.

3.4 Questions the reader may wish to put

To the applicant: What are the shareholdings in Peak Cluster Limited? What is the estimated capital cost of the onshore pipeline, and what is the funding plan to final investment decision and beyond? Has Lhoist withdrawn, and does any other partner's participation depend on conditions? What is the verified annual CO_2 emission of each of the four works, and what capture rate is assumed? What happens to the application if Morecambe Net Zero does not obtain a storage permit by 2027?

To the Member of Parliament: Will the Department state whether it intends to include the project in any future cluster or allocation round, and if not, on what business model the applicant expects to operate?

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Section 4 — Route, corridor and what would be built

4.1 Why this matters locally

The applicant has published a corridor, not a route. For most of its length the corridor is “about 300m wide” and the applicant says it will “only need a corridor about 30-40m wide” to build in [1]; the Inspectorate has noted that the applicant’s own Scoping Report also describes a construction corridor “likely to be between 50m and 100m wide” [2]. Within the corridor, the positions of the pipeline, the block valve stations, the above-ground installations, the compounds and the crossings are all still to be fixed, and the applicant has said the corridor itself “remains under review and development” (Part E, Section 22). What a parish can usefully do at this stage is understand what each element is, what it would look like, how long it would be there, and what it leaves behind, so that when the alignment is published the questions are ready. This section describes what would be built, from the applicant’s own documents and the Inspectorate’s Scoping Opinion; Appendix A lists the districts and parishes the corridor passes through.

4.2 What is established

How the corridor was chosen

The applicant’s factsheet describes the method: “we investigated the coastline from North Wales to Cumbria to identify where the onshore pipeline could connect to offshore infrastructure. We then considered the route the pipeline could take from the cement and lime plants to this point. To do this, we looked at constraints including existing built-up areas, topography, ecologically designated sites, scheduled monuments, and listed buildings” [3]. The Inspectorate’s meeting note of July 2024 records more: “a GIS routing tool was used to identify the least constrained corridors”, followed by “an expert review of corridors selected, sensitivity testing, site visits and a constructability review”; that “the opportunity corridor for the western part of the pipeline had been confirmed but that the eastern corridor had two main options”; and that the “two route options” ran “south of Lostock” and “both run past the Lostock Energy from Waste plant and can be connected to it at a future date” [4]. The January 2024 inception note had recorded “north and south pipeline route options” [5]. **Neither eastern option, nor the criteria by which one was preferred, has been published; the Phase 1 consultation of January 2026 presented a single corridor.** Part E, Section 22, sets out what the applicant will have to show about alternatives.

The ten sections

The applicant’s Project Guide divides the route into ten sections, listing for each the local authorities concerned [1]. In summary, from east to west:

Table 4.1 — Route sections as described in the applicant’s Project Guide (January 2026)

Section	From	To	Authorities named by the applicant
1	Breedon Hope capture facility	North Feeder AGI, “south of Chapel-en-le-Frith”	Derbyshire Dales DC; High Peak BC; Derbyshire CC; Peak District National Park Authority; East Midlands Combined County Authority
2	Tarmac and Buxton Lime, Tunstead	North Feeder AGI	High Peak BC; Derbyshire CC; East Midlands CCA
3	North Feeder AGI	Central Feeder AGI, “south west of Macclesfield”	High Peak BC; Derbyshire CC; Cheshire East; Peak District National Park

Section	From	To	Authorities named by the applicant
			Authority; East Midlands CCA
4	Holcim Cauldon capture facility	Central Feeder AGI	Staffordshire CC; Staffordshire Moorlands DC; Cheshire East
5	Central Feeder AGI	Cranage, with Connection AGI 1, “north west of Holmes Chapel”	Cheshire West and Chester; Cheshire East
6	Cranage	Tarporley	Cheshire West and Chester; Cheshire East
7	Tarporley	Picton	Cheshire West and Chester
8	Picton	Willaston, with Connection AGIs 2 and 3 “in Ellesmere Port”	Cheshire West and Chester
9	Willaston	Leasowe, including the Coastal AGI	Wirral
10	Leasowe	Mean low water springs	Wirral

The Scoping Report names the pipeline elements differently — “Peak Cluster Pipeline (East)”, “(Central)”, “(West)”, the “Coastal AGI to MLWS Pipeline(s)”, and the feeder and connection installations — and the Inspectorate’s Opinion records that “Peak Cluster Pipeline (East) is located within the Peak District National Park” [2]. Section lengths have not been published. The Scoping Report puts the onshore trunk at “approximately 195 km” [6]; the applicant’s website adds “around 90km” of offshore pipeline to the store [7].

The pipeline

The applicant describes “around 200 km” of pipe “up to 36 inch in diameter (91.4 cm) and made from high-grade carbon steel”, buried “at a minimum depth of 1.2 metres to the top (crown) of the pipe, or below the depth of normal agricultural activity, whichever is deeper”, reduced to 0.5 m in shallow rock, and “designed to meet British standards” (elsewhere, “BS PD8010”) [8]. The Scoping Report states that the onshore trunk would carry CO_2 “in a gas phase” and that only the coastal pipelines “could be dense phase … in later years” [6]; Part B, Section 5, sets out what that means and why the dense-phase case must nonetheless be examined. The operating pressure has not been published; the website says only that the CO_2 is “compressed so that it can be transported safely” [7]. Leak detection is to be by “a Distributed Fibre Optic Sensor (DFOS) system or similar, which would run the full length” of the pipeline [7]; in March 2026 the factsheets described this as being “explored” [8].

The above-ground installations

The scheme has five named installations along the route and one at the coast [1][2]:

- **The North Feeder AGI**, south of Chapel-en-le-Frith, where the Hope and Tunstead feeders meet.
- **The Central Feeder AGI**, south-west of Macclesfield, where the Cauldon feeder joins.
- **Connection AGI 1**, north-west of Holmes Chapel, and **Connection AGIs 2 and 3**, in Ellesmere Port.

- **The Coastal AGI**, “close to the Wirral North Shore”, which “would compress the carbon dioxide (CO_2) before it is transported to the Morecambe Net Zero store” and “monitor and meter the flow” [9].

The Scoping Report gives the footprint of an above-ground installation as “5,000m² to 15,000m²” and of a block valve station as “approximately 1,500m² to 2,500m²”, without heights; the Inspectorate required the Environmental Statement to give “maximum heights, design parameters and limits of deviation” for each built element and noted that “new substations” may be needed [2, ID 2.1.2]. The factsheet describes a typical block valve station as “around 50m x 50m” with “low-level pipework, valves, and a small single-storey control kiosk”, remotely operated, unmanned and unlit in normal operation, with landscaping and screening; its own diagram marks “space for future expansion” [9]. The Scoping Opinion records that “the exact locations of permanent and temporary AGI’s and BVS are not yet known” and requires the Statement “to finalise the locations of all project components where possible” and to assess “the worst case scenario from the siting of AGI’s and BSVs” [2, ID 2.1.4]. The Scoping Report also refers to “possible Compressor Stations (if deemed required)” along the route [6]. Block valves matter for the hazard (they set the inventory that can escape from a breached section — Part B, Section 5) and for the landscape; the number and spacing have not been published.

The Coastal AGI is the largest element: “a site of up to 300m by 180m” with “most structures no higher than 15m (around 4–5 storeys)”, “a vent stack up to 50m tall and 1m wide”, continuous operation “supported by a permanent operations and security team”, and noise “primarily associated with mechanical equipment such as compressors” [9]. It “could be located in one of two areas: the landfall zone or inland zone”, taking “up to 4% of the inland zone, or up to 10% of the landfall zone”, and “the location would be influenced by the amount of compression required, which is still undergoing engineering development” [9]. The Scoping Report places the landfall “within the approximately 500 m gap at the shoreline between the Park Lane Holiday Homes and Leasowe Lighthouse” and describes “up to two pipelines of 42” diameter” of “approximately 2.4 to 3.8 km” from the Coastal AGI to mean low water [6]. The vent stack “would be used to safely remove CO_2 from equipment prior to maintenance or replacement; or to release CO_2 in case of an emergency” [9]; Part B, Section 5, deals with venting.

Construction

The applicant proposes open-trench construction along most of the route — “a trench is excavated, the pipe sections are laid and welded together, inspected and coated, then lowered into the trench and backfilled” — within a working width of “30–40m along most of the route, which would extend to around 50m from the coastal AGI to landfall”, with trenchless techniques (“horizontal directional drilling, auger boring, or micro-tunnelling”) at railway crossings, ancient woodland and the sea wall [8]. The Inspectorate has pointed out that the Scoping Report elsewhere gives the construction corridor as “between 50m and 100m wide” and has required consistency [2, ID 3.3.27]; Part E, Section 23, discusses the difference. Works “are anticipated to start in 2029 with operations due to start in 2032”; the pipeline would be built “in sections”, typically “between April and October”, with “the working width” remaining “open to construction traffic throughout the whole summer season”; trenchless and above-ground works “would continue into the winter months”; “main works compounds” may be “in situ for the duration of the construction period (up to three years)” at locations “yet to be decided”; and the coastal section would take “around 9–12 months” [8]. The Inspectorate has required the Statement to assess “impacts on farming and movement of livestock from road closures and diversions” and has drawn attention to the National Park Authority’s request that the transport assessment consider “capacity of routes into and out of the National Park during peak visitor times” [2, IDs 2.1.11 and 3.4.4]; parish responses appended to the Opinion raise narrow lanes and construction traffic (North Rode, for example — Part E, Section 23). Hydrotesting — filling the pipeline with water under pressure — requires abstraction and discharge consents from the Environment Agency (Part E, Section 18).

After construction

The applicant states that “the onshore pipeline, and that built in shallow water would be fully buried and the land restored as closely as possible to its original use”, with hedgerows replanted and ponds reinstated “where required”, and that “while much of the land directly above the pipeline can be

returned to its previous use, certain restrictions will apply" — its list permits "normal agricultural activity (crops, grazing)" and "farm tracks, fences, drystone walls, hedgerows" and prohibits "new buildings or structures" and "certain deep-rooted trees or plants" [8]. The width of the easement strip, the precise restrictions and the compensation terms have not been published (Part B, Section 8; Part E, Section 20). **The restrictions are for the life of the pipeline and, on the applicant's scoping material, the pipeline is expected to be left in the ground at decommissioning — so they are, in practice, permanent** (Part E, Section 23). The Inspectorate has required the Statement to assess "the potential for permanent landscape effects due to any planting restrictions introduced for any easement required" [2, ID 3.3.27].

Operation

The pipeline would be operated remotely with unmanned installations along the route and a staffed Coastal AGI [9]. Inspection would be by in-line tools, aerial and walked surveys [8]. The safety regime — HSE notification, the major accident prevention document, the county emergency plan and land-use planning zones — is described in Part B, Sections 7 and 8. Planned venting from the Coastal AGI stack, and any venting elsewhere for maintenance, has not been described beyond the factsheet sentence quoted above.

What the applicant will publish next

The applicant has said that Phase 2 will include "reducing a majority of the pipeline corridor to 100m and sharing more specific locations for infrastructure" [3], and that it plans to launch that phase "towards the end of the year" [10]. Its January 2026 programme document scheduled "statutory consultation (Phase 2)" for November 2026 to February 2027 and application submission for September 2027 [11]; the statutory basis for that consultation was repealed on 24 July 2026 (Part E, Section 17), so what Phase 2 will consist of is now for the applicant to decide.

4.3 What is uncertain, contested or not yet disclosed

- **The alignment within the corridor**, and which parts of the corridor will be dropped when it is reduced to 100 m.
- **The two eastern corridor options of 2024** and the reasons for the choice between them.
- **The number, spacing and locations of block valve stations**, and the locations and heights of the above-ground installations and any compressor stations.
- **The working width** — 30–40 m or 50–100 m.
- **The Coastal AGI location** — landfall zone or inland zone — and the compression it would house.
- **The operating pressure and the phase** of each section, and whether the Order will fix them.
- **Compound locations, haul routes and construction traffic routes.**
- **The easement width, restrictions and compensation terms.**
- **What happens at decommissioning.**

4.4 Questions the reader may wish to put

To the applicant: When will the alignment within the corridor be published, and will the Phase 2 material show the alternatives considered and the reasons for rejection? Where are the block valve stations and above-ground installations proposed in this parish, at what size and height, and with what lighting, fencing, access and screening? What is the working width and the permanent easement width, and what restrictions will apply within the easement? Which lanes will carry construction traffic, where will the compounds be, and for how long will the working width be open in this parish? What is the operating pressure and phase of the section through this parish?

To the host authority: Has the authority received any alignment, valve-station or compound information beyond the published corridor, and will it publish what it receives?

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Part B — Carbon dioxide as a hazard

Conventions used in this Part. “The applicant” means Peak Cluster Limited, the promoter of the pipeline. “The Inspectorate” means the Planning Inspectorate. “PSR” means the Pipelines Safety Regulations 1996 (SI 1996/825). Legislation is cited to legislation.gov.uk. Where a figure has been derived from published data rather than taken from a source it is marked *(derived)* and the assumptions are stated. Where the applicant has not published a figure that the analysis needs, that is said plainly rather than filled with a guess. **Key findings are set in bold** so that they are not lost in the detail; the emphasis marks importance, not certainty — each bold sentence carries the same references and qualifications as the text around it.

What the applicant has published about the pipeline (March 2026 factsheets). Onshore length “around 200 km”; diameter “up to 36 inch (91.4 cm)”; high-grade carbon steel; minimum depth of cover 1.2 m to the crown of the pipe (0.5 m in shallow rock); construction working width 30–40 m; designed to “BS PD 8010 standards” and to “follow the full set of safety measures required by the Pipeline Safety Regulations”; heavy-wall pipe in areas of high population density; in-line inspection, aerial and walked surveys; distributed fibre-optic sensing being “explored” for leak detection; construction from 2029, operation from 2032; block valve stations and above-ground installations at locations not yet decided. **The applicant’s Scoping Report describes the onshore trunk as carrying CO_2 “in a gas phase”, with dense-phase operation contemplated only for the short coastal section “in later years”; it has not published the operating pressure of any section, the wall thickness, the spacing of block valves, or the specification of the CO_2 stream.** Those statements and omissions matter for everything that follows, and each section says where; Section 5 explains why the dense-phase case is nonetheless treated as the design case throughout this Part.

Section 5 — CO_2 in dense phase: what is physically different about this pipeline

5.1 Why this matters locally

A high-pressure natural gas pipeline is a familiar object in the English countryside and most people have a working sense of its hazard: a leak that may ignite. A dense-phase CO_2 pipeline is a different object. The fluid inside is roughly as dense as water, so a single kilometre of 36-inch pipe holds something over 500 tonnes of it. On release it does not burn; it expands several hundred-fold, chills to below −78 °C, forms solid particles that sublime for some time afterwards, and produces a gas one and a half times heavier than air that is invisible, odourless and toxic at concentrations well below the level at which it displaces enough oxygen to matter. It slumps, follows the ground, and collects in valleys, cuttings, watercourses, ditches, cellars and buildings, and disperses slowly in still air. Along a rural corridor of farms, villages, minor roads, river valleys and railway cuttings, those properties — not ignition — are what an emergency plan, a land-use planning zone and a Development Consent Order examination have to deal with. This section sets out the physics and toxicology in enough detail that a reader can test the applicant's statements against them.

The basis on which this Part treats the pipeline as dense phase. The description above is of a dense-phase line, and the reader is entitled to know why it is used. The applicant's Scoping Report says the trunk would run "in a gas phase", with dense phase contemplated for the coastal section "in later years" (5.2 below). Three things follow. First, a gas-phase trunk has roughly a tenth of the inventory per kilometre and markedly shorter hazard ranges, and 5.2 gives the figures for both cases so that neither is overstated. Second, the coastal section — up to two 42-inch lines beside Leasowe, Moreton and Meols, and the Coastal AGI that feeds them — is described by the applicant itself as potentially dense phase, so the dense-phase treatment applies to it on the applicant's own case. Third, and decisively for the examination: **a pipeline that could commence in gas phase but transition to dense phase at a later date has to be assessed, designed and consented from the outset as a dense-phase pipeline.** The Development Consent Order fixes the maximum parameters once; the Environmental Statement must assess the "credible worst case" within the envelope the applicant asks for (the Rochdale envelope, Scoping Report section 3.3); the design pressure, wall thickness and fracture-control standard are set when the pipe is ordered, not when the phase changes; and the major accident prevention document and HSE's land-use planning zones are drawn to the notified maximum operating pressure. If dense phase is to remain open for "later years", it is the dense-phase case that falls to be examined now; if it is not, the Order's parameters would record that. Section 5.2 addresses mixed-phase behaviour; it does not rule out gas-phase operation, and the questions at 5.4 ask the applicant to fix the phase and maximum operating pressure of each section.

5.2 What is established

Phase behaviour and why the pipeline would run at high pressure

CO_2 has a critical point at 30.98 °C and 73.8 bar and a triple point at −56.6 °C and 5.18 bar (NIST reference data) [1]. Above the critical pressure it is a "dense phase" fluid — HSE's term for liquid or supercritical CO_2 collectively [2]. Long-distance CO_2 pipelines are designed to stay in the dense phase and well away from the phase boundaries, because a two-phase mixture of gas and liquid in the pipe causes slugging, pump damage and unstable hydraulics, and because dense-phase transport moves far more mass per unit of pipe diameter. The IEAGHG review of world CO_2 pipeline practice records that "the majority of the studied pipelines transport the CO_2 in supercritical phase" and that operators "stay clear of the phase transition boundaries" [3]; the IPCC Special Report notes the first large US line was built as a dense-phase system because it was "20% cheaper than a low-pressure CO_2 gas pipeline" [4]; and the US regulator PHMSA describes supercritical CO_2 pipelines as operating at "1,200 to 3,200 psi" (about 83–220 bar) [5]. National Grid's full-scale tests for its proposed Yorkshire and Humber CCS pipeline were carried out on 36-inch (914 mm) pipe at about 150 barg [6].

The applicant's EIA Scoping Report of January 2026 — the one technical description on the public record — states that the onshore trunk pipeline of "approximately 195 km" would carry CO_2 "in a gas phase" to the Coastal AGI, and that only the short pipeline(s) from the Coastal AGI to the sea "could be dense phase, rather than gas phase … Dense phase operations would be in later years of the operational life" [34, paras 3.2.67, 3.2.127–3.2.128]. It does not state an operating pressure for any section; the applicant's website says only that the CO_2 is "compressed so that it can be transported safely" [35]. The March 2026 factsheets give the diameter as "up to 36 inch" and say nothing about phase [36]. The subsection "Gas phase or dense phase" below sets out what that statement implies for capacity, for the hazard and for the economics, and why this Section nonetheless treats the dense-phase case as the design case.

Density and inventory

At 10 °C — a representative UK ground temperature at 1.2 m burial — dense-phase CO_2 has a density of about 921 kg/m³ at 100 bar and 955 kg/m³ at 150 bar (NIST) [1]. CO_2 gas at atmospheric pressure and 15 °C has a density of 1.87 kg/m³, against 1.225 kg/m³ for air: it is 1.53 times heavier than air [1][7]. The fluid in the pipe is therefore roughly 500 times denser than the gas it becomes on release.

Table 5.1 shows the resulting inventory per kilometre and per isolated section *(derived)*. The assumptions are a 914 mm outside diameter with a 25.4 mm wall — the pipe used in National Grid's full-scale COOLTRANS tests [6]; the applicant has not published its wall thickness — an internal cross-section of 0.586 m²; and NIST densities at 10 °C. Existing CO_2 pipelines have block (emergency shut-down) valves at an average spacing of 10–20 km [3]; HSE has noted that "a point to point CO_2 pipeline from capture plant to injection facility could hold as much as 10,000 tonnes of CO_2" [2].

Table 5.1 — Indicative CO_2 inventory of a 36-inch pipeline at 10 °C, gas phase and dense phase (derived)

Basis	Gas phase, 30 bar	Gas phase, 40 bar	Dense phase, 100 bar	Dense phase, 150 bar
Density of the CO_2 in the pipe	c. 72 kg/m³	c. 110 kg/m³	c. 915 kg/m³	c. 967 kg/m³
Per kilometre	c. 42 t	c. 64 t	c. 540 t	c. 570 t
10 km between block valves	c. 420 t	c. 640 t	c. 5,400 t	c. 5,700 t
20 km between block valves	c. 840 t	c. 1,300 t	c. 10,800 t	c. 11,300 t
Same pipe carrying natural gas at 70 bar, for comparison	c. 35 t per km			

Gas-phase densities from the Peng–Robinson equation of state; dense-phase densities within about 2% of NIST [1]. A gas-phase line must run below the saturation pressure at the coldest ground temperature — 34.9 bar at 0 °C, 38.7 bar at 4 °C, 45.0 bar at 10 °C (derived from the Span–Wagner equation [1]) — so 25–40 bar is the plausible envelope for the trunk as described.

The comparison with natural gas is the important line: **per kilometre, a dense-phase CO_2 line holds around fifteen times the mass of a high-pressure gas line of the same size; a gas-phase CO_2 line at 30–40 bar holds one to two times as much.** Block valves limit how much can eventually escape from a breached section; they do not reduce the initial release rate, and the section between the valves still empties. For the coastal section, two dense-phase 42-inch lines of 3.8 km would hold about 5,600–6,000 tonnes between the Coastal AGI and the landfall (derived) — of the same order as the c. 4,500 tonnes released at Satartia (Section 6).

Gas phase or dense phase: what the applicant's Scoping Report implies

Capacity. A gas-phase CO_2 pipeline moves far less mass than a dense-phase one of the same bore because the fluid is a tenth as dense, and its pressure is capped by the saturation line at ground temperature. Table 5.2 gives an indicative hydraulic capacity for a 36-inch line over the 195 km trunk length, computed for this briefing *(derived: isothermal flow at 10 °C, Colebrook friction, 25.4 mm wall, no allowance for elevation, no intermediate compression)*.

Table 5.2 — Indicative throughput of a 36-inch, 195 km CO_2 pipeline (derived)

Case	Inlet pressure	Delivery pressure	Approximate capacity
Gas phase	35 bar	20 bar	c. 5 million tonnes a year
Gas phase	40 bar	20 bar	c. 6–6.5 million tonnes a year
Gas phase	45 bar (at or above the saturation line in cold ground)	20 bar	c. 7.5 million tonnes a year
Dense phase	120 bar	80 bar	c. 30 million tonnes a year
Dense phase	150 bar	90 bar	c. 40 million tonnes a year

For comparison, the HyNet CO_2 pipeline's Environmental Statement describes its 36-inch Stanlow-to-Flint section as having "a capacity of up to 10 MtCO2/yr at a pressure of approximately 35 barg" — a gas-phase pressure — over a much shorter run [37]; capacity falls with length at a given pressure drop, and the Peak Cluster figures above are consistent with that precedent. Three conclusions follow. **The applicant's stated throughput of 3 million tonnes a year is within the capacity of a 36-inch gas-phase line over 195 km; a 36-inch bore is, however, far larger than a dense-phase line would need for that tonnage (a 16- to 18-inch dense-phase line would carry it), and the gas-phase capacity of the bore is exhausted at roughly 5–7 million tonnes a year without intermediate compressor stations.** The Scoping Report's reference to "possible Compressor Stations (if deemed required)" along the route, and to dense-phase operation "in later years", is consistent with a design that starts in gas phase at the stated tonnage and keeps both routes to higher throughput open [34]. The 6.6 million tonnes a year attributed to the pipeline in the National Wealth Fund's material (Section 11) sits at the top of the gas-phase range.

Safety. Gas-phase operation changes the hazard in degree, not in kind. The inventory per kilometre falls by an order of magnitude (Table 5.1). The release is a decompressing gas rather than a flashing liquid: there is no saturation-pressure plateau holding the outflow up, less solid CO_2 forms, and the cloud is smaller. HSE's own 2009 modelling of a 736 mm buried CO_2 pipeline in the vapour phase at 32 barg gave a full-bore-rupture hazard range to the "specified level of toxicity" of about 136 m and land-use planning zones of 12 m (middle) and 67 m (outer), against an outer zone of 100 m for natural gas in the same pipe — with the authors' warning that ranges "would be expected to be substantially larger for releases at higher pressure and therefore in dense phase" [20]. For a slightly larger bore at 25–40 bar the screening expectation for the trunk is therefore a hazard band of a few hundred metres rather than the kilometre-scale plume seen at Satartia. What does not change: the CO_2 is still toxic, still heavier than air, still collects in low ground; the pipeline is a major accident hazard pipeline under the 2026 amendment whatever its phase — the new paragraph 9A applies to carbon dioxide "in any fluid state" (Section 7); running fracture remains a design question, though the decompression behaviour of a gas is more benign than that of a dense-phase fluid; and the coastal section, on the applicant's own case, may be dense phase beside housing. The safety case for a "gas-phase" project is therefore a two-part case — a trunk with a modest footprint and a coastal segment with a large one — and the examination should be asked to see both, together with the dense-phase trunk case if the Order's parameters leave it open.

Economics. The cost of a pipeline is almost entirely the pipe and its installation, which do not depend on the phase carried; the phase determines how much the pipe can carry and what compression is

needed. Three effects bear on the per-tonne figures in Section 11. First, throughput: a gas-phase 36-inch line carries the stated 3 million tonnes but has limited headroom, so the capital is spread over a smaller maximum tonnage than a dense-phase design of the same bore; Table 11.1's utilisation sensitivity applies, with the difference that the ceiling itself is lower. Second, compression: gas-phase transport needs less compression at the capture sites (to c. 30–40 bar rather than c. 100–150 bar), but the CO_2 must still be raised to dense-phase pressure at the coast for injection, so the compression energy is moved to the Coastal AGI rather than avoided, and any intermediate compressor stations add above-ground installations, energy and cost along the route. Third, dense-phase readiness: a pipe that is to be converted to dense phase "in later years" must be designed, ordered and installed to the dense-phase pressure and fracture-control standard from the start, so that cost is incurred at the outset whether or not the conversion ever happens. **A gas-phase design does not reduce the capital cost of the pipeline; it reduces what the pipeline can carry, moves compression to the coast, and — if dense phase is to be kept open — requires the dense-phase pipe to be bought anyway.** The applicant has not published enough to quantify any of this, and the questions at 5.4 ask for the figures.

What happens on release

The full-scale and large-scale test programmes carried out in the UK and Europe between 2008 and 2019 (summarised at 5.2 below, "The research base") established the following:

- Pressure at the release point falls to the saturation pressure "well within one second" and then holds there while the two-phase mixture discharges [8].
- Expansion cools the fluid by the Joule–Thomson effect to −78 °C and below; solid CO_2 forms in every puncture and rupture tested, with particles of 1–20 µm and, in some scenarios, around 20% of the released mass raining out as solid before subliming [9][10][11].
- The visible white cloud is condensed water vapour, not CO_2. Its edge does not mark the edge of the hazard, and as the cloud warms it can become invisible while still dangerous [12].
- The cold, dense gas slumps and spreads along the ground. DNV's guidance for hazard assessors is that a release "will tend to slump and accumulate or be influenced by natural or manmade topographical features such as drains, valleys, basements, low lying ground", with particular attention to "still weather conditions, especially if there is a temperature inversion" [12]. The EU CO2PipeHaz programme found that "the presence of the terrain has a large effect on the dispersion of the CO_2 cloud" [11]. HSE's own guidance notes that "it is also possible for CO_2 to accumulate in trenches or depressions outside following leaks and this is more likely to occur following a pressurised release where the released CO_2 is colder than the surrounding air" [13].
- A dense-phase release persists longer than a gas release of the same pipe because the inventory is an order of magnitude larger, the outflow is throttled at the saturation plateau rather than falling away, solid CO_2 continues to sublime after the main discharge, and the gas neither burns off nor rises. The 2020 Satartia rupture in Mississippi (Section 6) discharged about 31,400 barrels — roughly 4,500 tonnes *(derived)* — over several hours from a 24-inch line [14].
- Vehicles are affected. PHMSA's investigation of Satartia recorded that people "in the area nearest to the migrating CO_2 vapor cloud experienced vehicle engine issues", and that occupants of one vehicle succumbed to the gas and had to be rescued [14]. No regulator or peer-reviewed source states the concentration at which engines stall; figures quoted in campaigning material should be treated as unverified.

Toxicity: why CO_2 is regulated as toxic, not merely as an asphyxiant

The UK workplace exposure limits for CO_2 are 5,000 ppm (0.5%) averaged over eight hours and 15,000 ppm (1.5%) over fifteen minutes [15]. The US NIOSH "immediately dangerous to life or health" concentration is 40,000 ppm (4%) [16]. Table 5.2 gives the effects by concentration from the US EPA's compilation of the clinical literature, which is consistent with the peer-reviewed emergency-medicine review by Permentier and colleagues [17][18].

Table 5.2 — Acute effects of CO_2 inhalation by concentration

CO_2 in air	Exposure time	Effects (summarised from source)
2%	Several hours	Headache, breathlessness on mild exertion
3%	1 hour	Mild headache, sweating, breathlessness at rest
4–5%	A few minutes	Headache, dizziness, raised blood pressure, uncomfortable breathlessness
6%	Minutes to hours	Hearing and visual disturbance, headache, breathlessness, tremors
7–10%	Minutes to 1 hour	Unconsciousness, headache, rapid heart rate, sweating, rapid breathing
>10–15%	1 to several minutes	Dizziness, drowsiness, severe muscle twitching, unconsciousness
17–30%	Within 1 minute	Loss of controlled activity, unconsciousness, convulsions, coma, death

Source: US EPA, Vulnerability Evaluation Framework for Geologic Sequestration of CO_2, Appendix B, Table B-1 [17].

Two points follow. First, these are toxic effects, not oxygen starvation. As HSE puts it: “for CO_2 to reduce the oxygen concentration in air down to a level that is immediately dangerous to life, the CO_2 concentration would need to be in the order of 50% v/v. **Evidence shows, however, that CO_2 does create an immediate threat to life at a concentration of only 15% in air due to the toxicological impact it has on the body**” [2]. Permentier and colleagues state the same clinically: “the cause of death in breathing high concentrations of CO_2 is not the hypoxia but the intoxication of carbon dioxide” [18]. Second, the harm rises very steeply with concentration. HSE’s toxicity model for land-use planning uses a “dangerous toxic load” of the form concentration^n × time with n = 8 for CO_2 [19]; doubling the concentration multiplies the toxic load by 256. HSE’s published thresholds are a SLOT (specified level of toxicity: severe distress to almost everyone, many needing medical attention, some seriously injured, the highly susceptible possibly killed) of 1.5×10^{40} $ppm^8 \cdot min$ and a SLOD (significant likelihood of death: 50% mortality) of 1.5×10^{41} $ppm^8 \cdot min$ [19]. Table 5.3 converts these to concentrations; the values match HSE’s own published table [2].

Table 5.3 — HSE dangerous toxic load thresholds for CO_2, expressed as concentration

Exposure time	SLOT	SLOD (50% fatality)
1 minute	10.5%	14.0%
5 minutes	8.6%	11.5%
10 minutes	7.9%	10.5%
30 minutes	6.9%	9.2%
60 minutes	6.3%	8.4%

The practical meaning is that a person who cannot get out of a cloud at 8–10% within a few minutes is at serious risk, and that a cloud at 14% or more is lethal to half those caught in it within a minute. HSE’s conclusion in 2011 was that CO_2 “has a major accident potential in line with other hazardous substances currently regulated through permissioning regimes” [2], and its research comparing CO_2 with natural gas pipelines concluded that “the toxicity of CO_2 gives rise to much larger hazard ranges

than for asphyxiation" and that CO_2 "has sufficient toxicity to be regulated as a dangerous fluid under the Pipeline Safety Regulations" [20]. That regulatory change was made in 2026 (Section 7).

Impurities

Captured CO_2 is not pure. Depending on the capture process it carries water, oxygen, nitrogen, argon, hydrogen, carbon monoxide, oxides of sulphur and nitrogen, hydrogen sulphide, amines and other trace components. Impurities matter in three ways:

- **Corrosion.** Dry CO_2 is benign to carbon steel (corrosion of the order of microns per year), but with free water present and acid-forming impurities the rate rises by orders of magnitude — the IPCC cites 0.7 mm per year at 40 °C [4]; the IEAGHG review states that "water is the main risk factor for internal corrosion" [3]; and the peer-reviewed materials literature shows that the water content at which corrosion starts depends on which other impurities are present and how they react with one another along the pipe [21].
- **Fracture.** Non-condensable impurities (nitrogen, hydrogen, oxygen, argon) raise the saturation pressure of the mixture, which — for the reasons given under "Fracture" below — makes a running fracture harder to arrest. HSE notes that impurities "change the phase diagram and hence behaviour of the mixture compared to pure CO_2" [2].
- **Toxicity of a release.** HSE's assessment notes that "where such impurities are toxic in their own right they may add to the overall toxicity" of a release [2]; hydrogen sulphide, for example, is immediately dangerous to life at 100 ppm, against 40,000 ppm for CO_2 [4].

Published network specifications show the tightness of control required. The Dutch Porthos system, for example, requires at least 95% CO_2, no more than 70 ppm water, 40 ppm oxygen, 5 ppm hydrogen sulphide, 5 ppm total NOx and 1 ppm amines [22]. PHMSA has proposed limits of 50 ppm water and 20 ppm hydrogen sulphide for US lines [5]. Capture at cement and lime works is relevant here: the IEAGHG study of CCS in the cement industry records that post-combustion capture at cement plants may need "secondary treatment to reduce the quantities of impurities such as SOx, NOx, particulates and other trace materials in the flue gas" [23]. A pipeline fed by several emitters must also manage the interaction between streams: DNV, revising the Northern Lights specification in 2024, cited "new insights into the cross-reactions between various components and the development of corrosive fluids" and the fact that "different industries have different impurities in their flue gases" [24]. The applicant has not published a CO_2 stream specification or its arrangements for monitoring and enforcing one.

Fracture

A steel pipeline can fail by a crack that runs along its length faster than the pressure inside can fall — a "running ductile fracture" that can unzip hundreds of metres of pipe. Whether the crack arrests depends on the race between the crack speed and the decompression wave. For natural gas the pressure at the crack tip falls quickly; for dense-phase CO_2 it does not. When the liquid flashes to gas the pressure holds at the saturation pressure — typically 50–90 bar, depending on temperature and impurities — for a long plateau, so the driving force on the crack stays high. National Grid's engineers described this as the decisive difference: "arrest toughness is highly sensitive to very small changes in saturation pressure" [6]. The IPCC noted that "CO_2 pipelines may be more subject to longitudinal running fracture than hydrocarbon gas pipelines" and that US practice installs fracture arresters "at intervals of about 500 m" [4]; the IEAGHG review states that "high-pressure CO_2 pipelines are not self-arresting in terms of longitudinal failure and thus require the installation of crack arrestors" or equivalent design measures [3].

The standard industry method for specifying pipe toughness against running fracture — the Battelle Two-Curve Model developed for gas pipelines — has been shown by the full-scale tests to be non-conservative for CO_2 [6][25][26]. In National Grid's third full-scale test a fracture ran through pipe with Charpy toughness of 102 J and 173 J at 100–130 m/s and arrested only in 330 J pipe [25]; the programme validated a specified minimum of 250 J for its 80 barg saturation-pressure design [6]. The corrections now built into ISO 27913 and DNV-RP-F104 are validated only within the envelope of the tests that produced them — Charpy energy of 250 J and above, diameters 406–914 mm, grades X60–X65 — and the authors of the 2022 reanalysis state that "additional full-scale fracture propagation test data is required" [26]. The applicant's factsheet cites PD 8010 as its design code.

PD 8010-1:2015 names carbon dioxide within its scope [27], but it is a general code for steel land pipelines; the CO_2-specific fracture-control methods are in ISO 27913:2024 and DNV-RP-F104 [28] [29]. Which of these the applicant will apply, at what minimum toughness, with what arrestor strategy, and against what assumed saturation pressure, has not been published.

Comparison with natural gas pipelines

The HSE/HSL study that led to the 2026 reclassification set out the comparison in terms a lay reader can use [20]: “unlike natural gas, CO_2 does not require ignition for it to cause harm”; CO_2 “can give rise to similar hazard ranges and hazard footprint areas to natural gas at 7 barg”; “the toxicity of CO_2 gives rise to much larger hazard ranges than for asphyxiation”; and, because the study could not model dense-phase releases reliably, “the hazard ranges and therefore risks would be expected to be substantially larger for releases at higher pressure and therefore in dense phase”. HSE’s summary of the same work is that a dense-phase CO_2 release “presents a similar level of risk to a release from a high pressure natural gas pipeline” [30]. The IEAGHG adds that the physical differences mean “different design parameters, risk contours and assessment than for natural gas” and that “start-up, routine inspection, shutdown and venting of CO_2 pipelines can differ considerably” [3]. In short: comparable order of risk, different mechanism, larger inventory, and no ignition needed.

The research base

Six programmes provide most of the experimental evidence, and all are reputable (National Grid, DNV, the EU Framework Programme, the IEA Greenhouse Gas R&D Programme, and universities publishing in Scopus- and Web of Science-indexed journals):

- **COOLTRANS** (National Grid, 2011–2015): shock-tube, puncture, vent and quarter-scale rupture tests on buried 914 mm pipe at DNV’s Spadeadam site, plus three full-scale fracture tests; established solid-CO_2 formation in all releases, the need for a solid-phase equation of state, and the non-conservatism of the gas-pipeline fracture model [6][9][10][25].
- **CO2PIPETRANS** (DNV joint industry project, from 2008): produced DNV-RP-J202, now DNV-RP-F104; released public datasets of pressurised releases at up to 150 barg [8][29].
- **CO2PipeHaz** (EU FP7, 2009–2013, led by UCL): puncture and full-bore rupture tests on a 250 m pipeline and development of near- and far-field dispersion models [11].
- **CO2QUEST** (EU FP7, led by UCL): impurity effects on phase behaviour, corrosion and fracture across capture routes [31].
- **CO2SafeArrest** (DNV/University of Wollongong/Energy Pipelines CRC, 2017–2018): two full-scale burst tests on 610 mm pipe with CO_2-rich mixtures and dispersion measurements [26] [32].
- **IEAGHG CO_2 Pipeline Infrastructure** (2014): the standard review of world CO_2 pipeline practice, incidents, impurities and regulation [3].

The **COSHER** joint-industry test at Spadeadam is a useful single data point for scale: a full-bore rupture of a 219 mm pipe at 151 bar released about 136 tonnes in 204 seconds, producing a visible plume to 60 m height and 400 m from the rupture and a crater 5 m long [33]. A 36-inch line holds roughly fifteen to twenty times as much per metre, depending on wall thickness *(derived)*.

5.3 What is uncertain, contested or not yet disclosed

- **Operating pressure and wall thickness** — not published by the applicant; and the phase is stated only in the Scoping Report (“gas phase” for the trunk; coastal section “could be dense phase … in later years”), with no statement of whether the Order will fix it. Every hazard range, inventory figure and fracture calculation depends on them.
- **Block valve spacing and closure logic** — not published; the applicant’s factsheet says locations are not yet decided. Spacing sets the inventory that can escape from a breached section.
- **CO_2 stream specification** — not published; nor the monitoring and rejection arrangements for out-of-specification deliveries from individual works.

- **Fracture-control standard** — the applicant cites PD 8010; the CO_2-specific methods are in ISO 27913:2024 and DNV-RP-F104, and even those are validated only within the tested envelope.
- **Dispersion modelling** — HSE's own 2009 study found that dense-phase releases could not then be modelled reliably because "the formation of solids cannot be modelled accurately" [20]; the models have improved since, but whether the applicant's assessment will resolve local topography (valleys, cuttings, embankments, watercourses) is unknown, and the Satartia investigation found the operator's model "underestimated the potential affected area" [14].
- **Vehicle stalling threshold** — observed at Satartia; no authoritative concentration figure exists.

5.4 Questions the reader may wish to put

To the applicant: What is the maximum operating pressure and the phase of the CO_2 in each section, and will the draft Order fix a maximum operating pressure and phase for the trunk? Will the Environmental Statement assess a dense-phase trunk as the worst case within the Rochdale envelope, or will the applicant rule it out? If dense phase is contemplated "in later years", to what design pressure and fracture-control standard will the trunk be built at the outset, and what conversion works (compression, valves, re-notification to HSE) would the change require? Are intermediate compressor stations proposed, and where? What is the design throughput of the trunk in gas phase and in dense phase? What wall thickness and steel grade are proposed, and what minimum Charpy toughness? Which fracture-control method will be used (PD 8010, ISO 27913:2024, DNV-RP-F104), with what assumed saturation pressure and what arrestor strategy? What is the proposed spacing of block valves, their closure time, and the inventory between each pair? What CO_2 stream specification will apply, how will it be monitored at each entry point, and what happens to a stream that fails it? What dispersion model will be used in the Environmental Statement, will it resolve local terrain, and will the input assumptions be published? Where and how often will the pipeline be vented, and at what rate?

To HSE (via the local authority or directly): Will HSE require the applicant's major accident prevention document to address running fracture using a CO_2-specific method? What dispersion approach does HSE apply when setting land-use planning zones for a dense-phase CO_2 pipeline (Section 8)?

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Section 6 — CO_2 pipeline and release incidents: the evidence base

6.1 Why this matters locally

The safety case for a CO_2 pipeline is often argued from statistics: thousands of miles of CO_2 pipeline have operated in the United States for decades with no recorded fatality. That is true and it is relevant. It is also incomplete. Almost all of that mileage runs through sparsely populated oil-field country; the one rupture that reached a village — a rupture "approximately one mile" (about 1.6 km) from it — sent forty-five people to hospital; the investigation found the operator's dispersion model had left the village outside the predicted hazard area; and the regulator's response — a rule to require realistic dispersion modelling and emergency planning zones — was withdrawn before it could take effect. A reader assessing a 200 km line through the villages of the Peak fringe, the Cheshire Plain and the Wirral needs the record, what it does and does not show, and what the investigations concluded about warning, detection and response. Appendix E tabulates the incidents; this section draws out the lessons.

6.2 What is established

The US record

The United States has the world's only large CO_2 pipeline network, built to carry CO_2 to oil fields for enhanced oil recovery. PHMSA's annual-report data record 5,150–5,501 miles of "CO_2 or other" hazardous-liquid pipeline in each year from 2020 to 2025 [1]. PHMSA's own summary of the accident record, in its 2025 rulemaking proposal, is that "over the 10-year period from 2010 to 2021, 66 accidents on pipelines transporting supercritical-phase carbon dioxide have been reported", averaging "approximately 920 barrels per accident (approximately 110 metric tons per accident)", with a stated total of 49,181 tonnes released, and that reported accidents between 1991 and 2023 "yielded one injury and no fatalities" [2]. (The PHMSA figures do not reconcile with one another — 66 accidents at 110 tonnes each is about 7,300 tonnes, not 49,181 — and the "10-year period" spans twelve calendar years; the inconsistency is in the source.) That last figure uses PHMSA's reporting definition of injury; it sits alongside PHMSA's own investigation finding that the 2020 Satartia rupture caused 45 people to seek hospital treatment [3]. **Both statements are accurate on their own terms; neither should be quoted without the other.**

Satartia, Mississippi, 22 February 2020

The one full-bore rupture of a dense-phase CO_2 trunk line near a community is the Denbury Gulf Coast Pipelines rupture near Satartia, Yazoo County, Mississippi. PHMSA's Failure Investigation Report of May 2022 is the primary source and the following is taken from it [3].

The pipeline. A 24-inch, 77-mile line carrying supercritical CO_2 from Jackson Dome to oil fields in Louisiana; installed 2009; maximum operating pressure 2,160 psig (about 149 bar); operating at about 1,402 psig (about 97 bar) at the time.

The cause. A "full circumferential girth weld failure" caused by "soil movement, promoted by unusually high rainfall averages" that placed excessive axial strain on the pipe — a landslide on a steep embankment after seven to fourteen inches of above-average rain in sixty days. Denbury had told PHMSA that it experienced "two to three issues per year involving land movement" on the line, but its procedures "did not appear to address the potential for pipeline damage due to soil instability" and its integrity management programme did not address geohazards.

The release. Initially reported as 222 barrels; finally 31,405 barrels — roughly 4,500 tonnes *(derived)* — over about four hours, and the report notes the true figure was probably higher.

Dispersion. The rupture was "approximately one mile southeast of Satartia" [3] — about 1.6 km. The CO_2 "moved down the slope to the east and remained in the bowl of the crater. As the discharged volume increased, and without significant winds to disperse the CO_2, the CO_2 moved over the crest of the hill then west into the valley, reaching Satartia." The report concludes that "atmospheric

conditions and unique topographical features of the accident site significantly delayed dissipation of the heavier-than-air vapor cloud." **Denbury's 2011 dispersion model had "left Satartia outside of the affected radius", so the segment had not been classed as one that could affect a high-consequence area; PHMSA found the model "underestimated the potential affected area".**

Consequences. "Forty-five people sought medical attention at local hospitals"; "approximately 200 people were evacuated"; no deaths. Indoor readings in the village ranged up to 28,000 ppm (2.8%). People on the highway "experienced vehicle engine issues", and the occupants of one vehicle "succumbed to the effects of exposure to the released CO_2" and had to be rescued. Two highways and two local roads were closed; the all-clear was given at 8 a.m. the next day.

Warning and response. The local emergency dispatcher received a report of a "foul smell and green fog" nine minutes after the rupture and initially assumed a chlorine release. Denbury closed its valves within nine minutes but "did not notify local responders advising them of a potential failure. Local responders contacted Denbury approximately 40 minutes after the rupture. This led to confusion … and hindered the ability of first responders and community members to safely navigate the emergency." Denbury notified the National Response Center two hours after the rupture.

Enforcement. PHMSA proposed a civil penalty of $3,866,734 for eight probable violations; under a consent agreement in March 2023 Denbury paid $2,868,100 without admitting the allegations and committed to a geohazard programme, an updated dispersion model "incorporating CO_2 characteristics, terrain effects, elevation changes, and weather variables", and responder liaison [4] [5]. A separate PHMSA action, alleging that PHMSA's inspection of welding on the replacement segment was obstructed, proposed a further $2,366,900 penalty in January 2025 and remained open at the date of this briefing [6].

Sulphur, Louisiana, 3 April 2024

A release of about 2,548 barrels of CO_2 from a pump station on Denbury's 24-inch "Green" line near Sulphur, Louisiana, led to a shelter-in-place order for a quarter-mile radius for about three hours. No injuries were reported. No PHMSA investigation report or enforcement document for this event had been published at the date of this briefing; the quantity is from the operator's accident report as reported in the press, and a local news investigation reported that the parish's emergency alert reached only a handful of households [7]. The primary record is the operator's accident report in PHMSA's hazardous-liquid accident database.

The same Green line had suffered two pinhole leaks in 2010 and 2011 from mill defects in the pipe seam; PHMSA's investigation recorded that, because of the pinhole nature of the leaks, "neither was detectable by the system's SCADA equipment" [8]. That is the ordinary limitation of pressure- and flow-based leak detection. The applicant's reference to fibre-optic sensing (which detects the temperature drop at a leak) is relevant here; whether it becomes a commitment is a matter for examination (6.4).

Fixed CO_2 systems and the natural analogue

Two categories of non-pipeline event show what dense CO_2 does when it reaches people.

Fire-suppression systems. HSE's 2011 assessment records that "approximately 15 tonnes of CO_2 was accidentally released from a fire extinguishing installation in Mönchengladbach, Germany (2008). Due to coincidental failure of door seals, the released CO_2 was not contained by the building and it spread outside where there were very still air conditions. There were no fatalities from the incident but 107 people were intoxicated, 19 of whom were hospitalised" [9]. Fifteen tonnes is about 3% of the inventory of a single kilometre of 36-inch dense-phase pipe (Section 5, Table 5.1). The same HSE assessment records that fixed CO_2 fire-suppression systems worldwide caused 72 deaths and 145 injuries in 51 recorded incidents between 1975 and 2000 [9].

Lake Nyos, Cameroon, 21 August 1986. A natural release of an estimated 1.6 million tonnes of CO_2 from a volcanic crater lake killed around 1,700 people and 3,500 livestock in the valleys below, by CO_2 intoxication [9][10]. This was a limnic eruption, not a pipeline failure, and it is cited here only for what it demonstrates about the behaviour of a large mass of CO_2 in still air over undulating ground: it flows downhill, fills valleys, and causes fatalities at a distance.

The European and UK pipeline record

Europe has little onshore dense-phase CO_2 pipeline experience. The Dutch OCAP system carries about 400,000 tonnes a year of gaseous CO_2 at about 21 bar from refinery and fertiliser sources to greenhouses [11]; the Lacq pilot in France carried gaseous CO_2 at 27 bar through 29 km of repurposed gas line between 2010 and 2013 [12]; Norway's Snøhvit and Sleipner projects inject offshore and their pipelines are subsea [13]. No release from these systems was found in official sources. None of them is a dense-phase onshore trunk line through populated country, and none provides a UK base rate. The UK has no operating CO_2 transport pipeline; the first, the Viking CCS pipeline in Lincolnshire, received its Development Consent Order in 2025 [14].

Pipeline failure base rates, and the limits of applying them

The two authoritative European datasets cover natural-gas transmission pipelines. The European Gas Pipeline Incident Data Group's 12th report (1970–2022, 5.29 million km-years of exposure) gives an all-period failure frequency of 0.277 incidents per 1,000 km-years, falling to 0.101 in 2018–2022; the leading causes in 2013–2022 were corrosion (26%), external interference (23%), ground movement (19%) and construction or material defects (18%) [15]. The UK Onshore Pipeline Operators' Association's report for 1962–2022 (1.07 million km-years) gives 0.194 product-loss incidents per 1,000 km-years overall and 0.042 for 2018–2022; ruptures account for 0.006 per 1,000 km-years over the whole period; the leading causes are external interference, external corrosion and girth-weld defects [16].

Applied mechanically to a 200 km line over a 40-year life *(derived)*, the recent UK all-cause rate implies a chance of between one in four and one in three of at least one product-loss event of any size on the line in its lifetime, and the whole-period rupture rate implies a chance of a full rupture somewhere on the line of the order of one in twenty. Those figures are offered only for orientation, because every authoritative source warns against the transfer. The IEAGHG review, noting the small number of kilometres of CO_2 pipeline and the likely sampling error, states that **"it is not possible to draw robust conclusions about whether or not the incident rate with CO_2 pipelines would be systematically different from other gas pipelines"** [17]. **HSE's own researchers wrote of "considerable uncertainty in the failure rates for CO_2 pipelines" and warned that CO_2-specific defect mechanisms "may lead to differences in source terms such that risks may be greater than predicted"** [18]. The mechanisms that distinguish CO_2 are those seen at Satartia and on the Green line — girth-weld failure under ground movement, internal corrosion from impurities and water, running fracture, and the roughly fifteen-fold larger inventory released per failure (Section 5). The US CO_2 record itself, taken at face value — 66 reportable accidents on about 5,500 miles in twelve years — corresponds to roughly 0.6 per 1,000 km-years *(derived)*, but PHMSA's reporting threshold captures valve and fitting leaks that the European gas datasets exclude, so the numbers are not comparable.

The US regulatory response and its status

Following Satartia, PHMSA announced in May 2022 that it would strengthen CO_2 pipeline rules and issued an advisory bulletin on geohazards [19][20]. Its Notice of Proposed Rulemaking, signed on 10 January 2025, proposed among other things: extending federal rules to gaseous- and liquid-phase CO_2 lines; a requirement for operators to carry out vapour-dispersion analysis, or apply a two-mile buffer, in identifying areas a release "could affect"; two-mile emergency planning zones; a duty to notify affected communities and responders and to train and equip responders; continuous leak-detection monitoring; fracture-propagation design requirements; and conversion-to-service testing [2]. **The rule was never published:** the Presidential memorandum of 20 January 2025 directed agencies to withdraw rules sent to the Federal Register but not yet published, and the rule appears in the Federal Unified Agenda for 2025 as a "long-term action" with its next stage "to be determined" [21]. A Senate bill to require PHMSA to issue such a rule, including "vapor dispersion modeling to identify high consequence areas", passed the Senate in April 2026 but had not been enacted at the date of this briefing [22]. The proposals remain the most detailed regulatory statement of what a competent CO_2 pipeline safety regime requires, and are a useful benchmark for the questions in 6.4.

What the record shows

Five lessons recur across the investigations:

1. **Detection.** Small leaks fall below the sensitivity of pressure- and flow-based systems [8]; large ruptures are detected within seconds but the release is then already under way. Independent leak detection (for example fibre-optic temperature sensing) is the only route to catching the former.
2. **Notification.** At Satartia the operator closed its valves quickly but did not notify local responders, who learned of the release from the public and initially assumed a different chemical [3]. A pipeline operator's emergency arrangements (PSR regulation 24, Section 7) must include immediate, automatic notification to the local authority and emergency services with the identity of the product.
3. **Dispersion modelling.** The operator's model at Satartia left the village outside the hazard area [3]. Terrain-resolved modelling with realistic weather assumptions is the foundation of both the emergency plan and the land-use planning zones (Section 8).
4. **Public warning and shelter.** Heavier-than-air toxic gas without smell or colour requires a warning system that reaches everyone quickly and tells them what to do; at Sulphur the alert reportedly reached only a handful of households [7]. Advice to shelter indoors or upstairs, and not to drive, differs from the instinctive response to a gas leak.
5. **Vehicles and rescue.** Petrol and diesel engines fail in the cloud [3], and responders' vehicles are not exempt. Responders need breathing apparatus, gas detection, and a plan for approach from upwind and uphill.

6.3 What is uncertain, contested or not yet disclosed

- **Sulphur 2024** has no published investigation; cause and lessons are unknown.
- **Base rates for CO_2 pipelines** are not established and the authoritative sources say so; any figure quoted for the "probability of a rupture" on this line — by the applicant or by objectors — rests on gas-pipeline data plus judgement.
- **The applicant's own hazard assessment** has not been published. The Inspectorate's Scoping Opinion (EN0710001-000018, 19 February 2026) records that the applicant's Scoping Report "notes potential for a significant loss of containment event, leading to a large-scale release of CO_2 during operation" — so that scenario is within the scope of the Environmental Statement for the operational phase — but proposed to exclude it for construction and decommissioning; the Inspectorate replied that the Scoping Report "does not justify why this would not be possible during construction and decommissioning" and required the Environmental Statement to provide that information [23]. The Inspectorate also declined to scope out landslides for decommissioning for want of justification [23]. Neither document says anything about the dispersion model to be used, and the Scoping Opinion contains no reference to the incident record.
- **US rule status** may change; the Senate bill or a renewed PHMSA proposal would alter the benchmark.
- **Distances from the pipeline to dwellings, schools, businesses and roads along this route** cannot yet be evaluated: the applicant has published a corridor about 300 m wide, not an alignment, and the positions of the block valve stations and above-ground installations are undecided. What can be said now is the scale against which the distances will matter once known. Satartia's cloud reached a village about 1.6 km from a dense-phase rupture; HSE's own modelling of a gas-phase rupture at 32 barg gave a hazard range of about 136 m and an outer land-use planning zone of 67 m (Section 5); the corridor itself is 300 m wide. A reader who wishes to test a particular settlement should therefore ask for the alignment and the valve positions, then measure to the nearest occupied building, and compare with those three figures — the gas-phase and dense-phase cases giving very different answers (Section 5, "Gas phase or dense phase"). Section 8 explains how HSE will draw the zones once the pipeline is notified.

6.4 Questions the reader may wish to put

To the applicant: Will the Environmental Statement's major-accidents chapter present terrain-resolved dispersion modelling for representative rupture and puncture cases along the whole route, and will the model, inputs and results be published in full? Has the applicant reviewed the PHMSA Satartia findings and the PHMSA 2025 proposals, and which of the proposed measures (dispersion-based "could affect" areas, two-mile emergency planning zones, automatic responder notification, responder training and equipment, continuous leak monitoring) does it commit to? Will independent leak detection along the whole line be a commitment secured in the Development Consent Order rather than a technology being "explored"? Has the route been assessed for ground-movement hazard (landslip, mining, peat, made ground) at every crossing of a slope, cutting or watercourse?

To the local authority and the Local Resilience Forum: Has the authority been briefed on the Satartia investigation findings, and does its emergency-planning capacity extend to a toxic, heavier-than-air, engine-stalling release along 200 km of rural corridor?

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Section 7 — UK safety regulation: HSE, the Pipelines Safety Regulations and the 2026 reclassification

7.1 Why this matters locally

Until 6 April 2026 a CO_2 pipeline in Great Britain was, in law, an ordinary pipeline. It was not a "major accident hazard pipeline"; the operator owed no duty to notify HSE before building it, to prepare a major accident prevention document, or to furnish the county council with the information for an emergency plan; and HSE set no land-use planning zones around it. All of that changed by a statutory instrument made in March 2026, in force from April, which applies the major-accident regime to CO_2 pipelines used for carbon capture and storage. The change is recent enough that some of HSE's own web pages still state the old position. It matters to a parish or county councillor because it fixes who must do what, and when: the emergency plan is the local authority's statutory duty, funded by a charge on the operator, and the planning zones will constrain development along the route for the life of the pipeline. This section sets out the regime as it now stands, who enforces it, how it interacts with the Development Consent Order process, and which design standards apply.

7.2 What is established

The Pipelines Safety Regulations 1996 and the "major accident hazard pipeline"

The Pipelines Safety Regulations 1996 (SI 1996/825, "PSR") apply general duties to every pipeline — safe design, materials, construction, operation, maintenance and decommissioning, and protection against damage (regulations 5 to 17) [1]. A further set of duties (regulations 18 to 27) applies only to a "major accident hazard pipeline", which regulation 18 defines as "a pipeline in which a dangerous fluid is being, or is to be conveyed", a dangerous fluid being one that "falls within a description in Schedule 2" [2]. "Major accident" means "death or serious injury involving a dangerous fluid" [3]. Schedule 2 as made in 1996 listed flammable, toxic, oxidising and water-reactive fluids by reference to their chemical classification; carbon dioxide, which is neither flammable nor classified as toxic under the chemicals classification regime, fell within none of the descriptions [4]. HSE's guidance accordingly stated that "CO_2 is not currently defined as a dangerous fluid under PSR and, as such, CO_2 pipelines are not classified as Major Accident Hazard Pipelines" and that "developments around CO_2 pipelines will not be subject to controls under Land Use Planning" [5]. HSE's own research had recommended otherwise as long ago as 2009 (Section 5).

The 2026 reclassification

The Carbon Capture Utilisation and Storage and Offshore Hydrogen Production (Miscellaneous Amendments) Regulations 2026 (SI 2026/185) were made on 10 March 2026, laid before Parliament on 11 March 2026 and came into force on 6 April 2026 [6]. Regulation 4 inserts a new paragraph 9A into Schedule 2 of PSR:

> "9A. Carbon dioxide which— (a) is in any fluid state; (b) includes mixtures which consist predominantly of carbon dioxide; and (c) is used exclusively for the purposes of carbon capture, utilisation and storage operations, and associated activities." [6]

The effect is that a pipeline carrying CO_2 for CCS — in gaseous, liquid or dense phase — is now a major accident hazard pipeline. The Explanatory Memorandum records that the change followed a public consultation from 4 June to 13 August 2025 which received 77 responses [7]; HSE's response report describes them as "broadly positive and supportive" of classifying CO_2 as a dangerous fluid [8]. Three features of the instrument are worth noting. It contains no transitional provision, so it applies to any CCS pipeline whether designed before or after April 2026. It defines neither "predominantly" nor "carbon capture, utilisation and storage operations". And it requires the Secretary of State to review it, with a first report due before 6 April 2031 [6]. HSE's current position is stated on its carbon-capture pages: "if a pipeline is conveying CO_2 in fluid phase, and is involved in CCUS operations it is classified as a major accident hazard pipeline" [9]. Several of HSE's older pipeline pages, including the CO_2 conveying page cited above, had not been updated at the date of this briefing and should be read as historic.

What the major-accident regime requires

For a major accident hazard pipeline PSR imposes the following (all references are to SI 1996/825 as amended) [1]:

- **Notification before construction (regulation 20).** Construction may not begin unless the operator has notified HSE of the particulars in Schedule 4 “at least 6 months, or such shorter time as the Executive may approve, before such commencement”. HSE states that the notification supplies “pipeline diameter, wall thickness, maximum operating pressure, type of steel and its depth of burial”, and it is from these that HSE calculates its land-use planning zones (Section 8) [22].
- **Notification before use (regulation 21).** No fluid may be conveyed until 14 days after HSE has been notified of the intended date.
- **Major accident prevention document (regulation 23).** The operator must, “before the design of a major accident hazard pipeline is completed”, prepare and thereafter keep up to date a document demonstrating that “all hazards relating to the pipeline with the potential to cause a major accident have been identified”, that “the risks arising from those hazards have been evaluated”, that the safety management system is adequate, and that there are arrangements for independent audit. This document is not submitted to HSE for approval; it must exist and be available to HSE inspectors.
- **Operator’s emergency procedures (regulation 24).** No fluid may be conveyed unless the operator has established and recorded the organisation, arrangements and procedures for an emergency, and these must be “tested, by practice or otherwise, as often as may be appropriate”.
- **Local authority emergency plan (regulation 25).** A local authority notified by HSE that there is or is to be a major accident hazard pipeline in its area must, “before the pipeline is first used or within 9 months of such notification, whichever is later … prepare an adequate plan detailing how an emergency relating to a possible major accident in its area will be dealt with”. It must consult the operator, HSE and others; review the plan “at least every three years”; and the operator must furnish it “promptly with such information as it may reasonably require”. Where a pipeline crosses several authorities they may prepare a single plan.
- **Charge for the plan (regulation 26).** The authority may charge the operator a fee for preparing, reviewing and revising the plan, capped at the cost reasonably incurred and recoverable as a civil debt.
- **Emergency shut-down valves (regulation 19).** A specific duty to fit emergency shut-down valves applies to a major accident hazard pipeline “connected to an offshore installation”. Whether and how it applies to the onshore section of a pipeline that continues offshore to an injection facility is a question for HSE; in its consultation nine respondents argued that the valve requirement should be risk-based rather than fixed by diameter [8]. For the onshore line the spacing and closure of block valves otherwise falls to be justified in the major accident prevention document.

For a pipeline that would cross Derbyshire, Staffordshire, Cheshire and the Wirral, the “local authority” for regulation 25 is, in England, “a county council, a council having the functions of a county council … [or] a metropolitan county fire and civil defence authority” [3] — so Derbyshire County Council, Staffordshire County Council, Cheshire East Council, Cheshire West and Chester Council and, on Merseyside, the metropolitan fire authority. The relationship with the general emergency-planning duties of the Civil Contingencies Act 2004 is set by regulation 12(c) of the Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005: Category 1 responders “need not perform a duty under section 2(1) in relation to an emergency which is … a major accident, within the meaning of … the Pipelines Safety Regulations 1996” — that is, the PSR regulation 25 plan is the operative plan for a pipeline major accident, and the wider resilience machinery works around it [10]. The multi-agency partnerships that would carry that work are the Local Resilience Forums: the Cheshire Resilience Forum, the Derbyshire Resilience Partnership, Staffordshire Prepared and the Merseyside Resilience Forum [11].

The regulator

HSE enforces PSR. Pipelines are regulated by the Specialised Industries Gas and Pipelines Unit in HSE's Energy Division [12]. The regulatory standard under the Health and Safety at Work etc. Act 1974 and PSR is that risks be reduced "as low as is reasonably practicable"; the National Policy Statement for gas and oil pipelines summarises it thus: "the principal legislation governing the safety of pipelines (the Pipelines Safety Regulations 1996) requires that pipelines are designed, constructed and operated so that the risks are as low as is reasonably practicable (ALARP)", and "HSE expects pipeline operators to apply relevant good practice as a minimum" [13]. That policy statement (EN-4) does not have effect for CCS infrastructure, but the Government has said it "may contain information that is important and relevant" to it [13].

HSE within the Development Consent Order process

HSE's role in the consenting process is distinct from its role under PSR. HSE is a statutory consultee for every Nationally Significant Infrastructure Project in England: the prescribed-consultee table for DCO applications lists "The Health and Safety Executive" for "all proposed applications" [14]. HSE is consulted by the Inspectorate on the scope of the Environmental Impact Assessment; it submits a relevant representation at examination "if there are significant outstanding concerns" [15]; and EN-4 advises that "the Secretary of State should seek advice from HSE about safety issues when considering an application" [13]. HSE's response to the Peak Cluster scoping consultation, dated 2 February 2026, shows the limits of that engagement at this stage. It opens: "HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant." It records that the scoping boundary appears "to cross the Consultation Zones of several Major Accident Hazard (MAH) sites and MAH pipelines" — five COMAH sites and thirteen existing gas transmission and distribution pipelines are listed — and recommends early liaison with those operators. On its own advice about the CO_2 pipeline it says only: "HSE's Land Use Planning advice would be dependent on the location of areas where people may be present. When we are consulted by the Applicant with further information under Section 42 of the Planning Act 2008, we can provide full advice" [23]. **Section 42 was repealed with effect from 24 July 2026 (Section 17), so the statutory trigger HSE was relying on for its full advice no longer exists; how and when HSE will now give that advice is a question to put to it.** The Inspectorate's own Scoping Opinion treats the applicant's proposal to exclude "activities under health and safety and construction design management regulations" from the assessment as acceptable only "providing that the ES can demonstrate that the regulations and legislation referenced provide adequate mitigation to ensure no likely significant effects" [23]. The EIA Regulations themselves require the Environmental Statement to describe the expected significant adverse effects deriving from the vulnerability of the development to major accidents and disasters, and the measures to prevent or mitigate them and to prepare for and respond to emergencies [16]. Two consequences follow. A DCO can be granted with HSE content or with HSE reservations noted; it does not certify PSR compliance, which is assessed later against the notification and the major accident prevention document. **And the land-use planning zones (Section 8) do not exist until the operator has notified HSE under regulation 20 — that is, after consent, during the six months before construction — so at examination there will be no HSE zones to test the route against unless the applicant produces equivalent analysis itself.**

Design standards

The applicant's factsheet states that the pipeline is "being designed to BS PD 8010 standards" [17]. PD 8010-1:2015+A1:2016, the British Standards Institution code of practice for steel pipelines on land, names carbon dioxide within its scope alongside oil, gas and other hazardous substances [18]. Two CO_2-specific standards exist: ISO 27913:2024 *Carbon dioxide capture, transportation and geological storage — Pipeline transportation systems* (second edition, October 2024), which covers gaseous and dense-phase CO_2, conversion of existing pipelines, CO_2 stream quality assurance and "health, safety and environment aspects specific to CO_2 transport" [19]; and DNV-RP-F104 *Design and operation of carbon dioxide pipelines* (February 2021), the successor to the recommended practice first produced by the CO2PIPETRANS joint industry project [20]. The gas-industry standard IGEM/TD/1, which underpins much UK practice on building proximity to high-pressure pipelines, is confined to natural gas and does not cover CO_2 [21]. HSE's historic guidance observed that none of the standards then listed addressed "CO_2 transported in its dense or supercritical phases" [5]; that

observation pre-dates ISO 27913 and DNV-RP-F104, and the applicant should be asked which CO_2-specific standard it applies for fracture control, stream quality and venting (Section 5).

Above-ground installations

CO_2 is not a named dangerous substance under the Control of Major Accident Hazards Regulations 2015 and is not classified as toxic or flammable for that purpose; on HSE's published position the block valve stations and other above-ground installations would be regulated as part of the pipeline under PSR and under general health and safety law rather than as COMAH establishments. That understanding should be confirmed with HSE, because it determines whether the separate COMAH safety-report and public-information duties apply to any compression or pumping station along the route.

7.3 What is uncertain, contested or not yet disclosed

- **Whether the applicant has yet notified HSE** under regulation 20, or engaged HSE on the major accident prevention document, is not public. The applicant's own consultation material pre-dates the reclassification.
- **HSE's method for CO_2 pipelines.** HSE has published no methodology or indicative distances for land-use planning zones around dense-phase CO_2 pipelines (Section 8).
- **Regulation 19** and the treatment of the onshore/offshore interface.
- **Definitions.** "Predominantly" carbon dioxide and "carbon capture, utilisation and storage operations" are undefined; the practical scope of paragraph 9A is HSE's to interpret until tested.
- **Emergency-plan funding and capacity.** Regulation 26 allows cost recovery from the operator, but the local authorities have not, so far as is public, indicated how they will resource a plan for a toxic, heavier-than-air release along a 200 km rural corridor.
- **HSE's full advice.** HSE's scoping response deferred its land-use planning advice to the statutory pre-application consultation under section 42 of the Planning Act 2008, which has since been repealed; the route by which HSE's advice now reaches the applicant, the Inspectorate and the local authorities before examination is unclear.

7.4 Questions the reader may wish to put

To the applicant: Has the applicant notified, or when will it notify, HSE under PSR regulation 20, and will the Schedule 4 particulars (pressure, diameter, wall thickness, route) be published at the same time? When will the major accident prevention document be prepared, and will its hazard identification and risk evaluation be shared with the local authorities for emergency-planning purposes before consent? Which CO_2-specific design standard (ISO 27913:2024, DNV-RP-F104) is applied in addition to PD 8010? What are the applicant's own emergency arrangements under regulation 24 — control-room detection, automatic responder notification, public warning — and will they be secured as DCO requirements?

To the county or unitary council: Has HSE notified the council of a prospective major accident hazard pipeline in its area? Has the council begun to scope the regulation 25 emergency plan, identified the officers and responders involved, and considered recovering its costs under regulation 26? Will the council make emergency-planning adequacy a matter for its Local Impact Report at examination?

To HSE: What methodology will HSE use to set consultation distances for a dense-phase CO_2 pipeline, and when will it be published? Does HSE regard the above-ground installations as outside COMAH? Will HSE's scoping response and any representation at examination be published in full?

7.5 References

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2. SI 1996/825, regulation 18. https://www.legislation.gov.uk/uksi/1996/825/regulation/18
3. SI 1996/825, regulation 2 (interpretation: "major accident", "local authority"). https://www.legislation.gov.uk/uksi/1996/825/regulation/2

4. SI 1996/825, Schedule 2 (as made, and as amended from 6 April 2026). https://www.legislation.gov.uk/uksi/1996/825/schedule/2/made and https://www.legislation.gov.uk/uksi/1996/825/schedule/2
5. Health and Safety Executive, “Conveying carbon dioxide (CO_2) in pipelines” (historic guidance, pre-April 2026). https://www.hse.gov.uk/pipelines/co2conveying-full.htm
6. The Carbon Capture Utilisation and Storage and Offshore Hydrogen Production (Miscellaneous Amendments) Regulations 2026, SI 2026/185 (made 10 March 2026; in force 6 April 2026), regulation 4 and regulation 8. https://www.legislation.gov.uk/uksi/2026/185/made
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11. Cabinet Office, “Local resilience forums: contact details” (updated 11 February 2026). https://www.gov.uk/guidance/local-resilience-forums-contact-details
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13. Department for Energy Security and Net Zero, *National Policy Statement for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)*, November 2023, paragraphs 1.6.8–1.6.9, 2.21.9–2.21.12 and 2.23.1. https://www.gov.uk/government/publications/national-policy-statement-for-natural-gas-supply-infrastructure-and-gas-and-oil-pipelines-en-4
14. The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, Schedule 1 (table substituted 30 April 2024). https://www.legislation.gov.uk/uksi/2009/2264/schedule/1
15. Health and Safety Executive, “Nationally Significant Infrastructure Projects” and “What is HSE’s role?” (land use planning pages). https://www.hse.gov.uk/landuseplanning/nsip-applications.htm ; https://www.hse.gov.uk/landuseplanning/what.htm
16. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, SI 2017/572, Schedule 4, paragraphs 5(d) and 8. https://www.legislation.gov.uk/uksi/2017/572/schedule/4
17. Peak Cluster, *Factsheet 5: Environmental impacts and pipeline safety*, March 2026; *Factsheet 2: About the pipeline*, March 2026. https://peakcluster.co.uk/
18. British Standards Institution, *PD 8010-1:2015+A1:2016 Pipeline systems — Steel pipelines on land — Code of practice*. https://knowledge.bsigroup.com/products/pipeline-systems-steel-pipelines-on-land-code-of-practice
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Team letter of 2 February 2026 with Appendix 1a and 1b). https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001/documents

Section 8 — Land-use planning consequences of a major accident hazard pipeline

8.1 Why this matters locally

A buried pipeline is out of sight once the land is reinstated, and the applicant's factsheet says most land above it "can be returned to its previous use". Three things nonetheless attach to the land for the life of the pipeline and beyond. First, HSE will draw three consultation zones either side of the line, within which planning authorities must consult HSE and HSE will advise against certain developments — housing in the inner zone, schools and care homes in the inner and middle zones, large public facilities in all three. Second, the easement strip carries permanent restrictions: no buildings, no change to the depth of cover, no deep-rooted planting, no works without the operator's consent. Third, compulsory rights over the strip are acquired under the compensation code, on terms that the DCO will fix and that differ in important ways from a negotiated sale. For a parish with a Neighbourhood Plan, a farm considering diversification, a landowner with a site allocation, or a household within a few hundred metres of the line, these are the concrete consequences. The evidence on wider property-value effects is limited, and this section says so.

8.2 What is established

HSE's consultation zones and how they work

Once a major accident hazard pipeline has been notified to HSE under PSR regulation 20 (Section 7), HSE "provides each local planning authority (LPA) along the pipeline route with 3 zone distances", calculated from "a quantified risk assessment (QRA) of each notified pipeline" using "pipeline diameter, wall thickness, maximum operating pressure, type of steel and its depth of burial" [1]. The three zones are, in principle, the distances at which an individual would face 10, 1 and 0.3 chances per million per year of receiving a "dangerous dose" — defined by HSE as one which would lead to "severe distress to all; a substantial number requiring medical attention; some requiring hospital treatment; some (about 1%) fatalities" [2]. For pipelines, where the 10-per-million level is not reached even at the pipe, HSE instead uses the building proximity distance from the gas industry's code as the inner zone [1]. For natural gas pipelines the dangerous dose is thermal radiation; for a CO_2 pipeline it would be the dangerous toxic load described in Section 5. Within the outermost zone the planning authority must consult HSE on "relevant developments which are likely to lead to an increased population around the major hazard" [3]; the statutory basis is article 18 of the Town and Country Planning (Development Management Procedure) (England) Order 2015 [4].

HSE's advice is generated by a fixed decision matrix. Developments are graded by sensitivity: level 1 (workplaces), level 2 (housing), level 3 (vulnerable populations — "primary schools, old people's homes") and level 4 (very large or very vulnerable — "football ground/large hospital"). HSE advises against level 2 development in the inner zone; level 3 in the inner and middle zones; and level 4 in all three zones [2]. Planning authorities are not bound by the advice, but a decision against it must be notified to HSE, which may in cases of exceptional concern ask for the application to be called in; HSE states that "significant housing in the Inner Zone will often be of exceptional concern" [5]. HSE advises against "in less than 300 instances out of about 3000 consultations" a year [5]. Developers and landowners can test any plot against the zones using HSE's Planning Advice Web App [6].

HSE has published one worked example of pipeline zone widths — for the Milford Haven natural gas pipeline: inner zone 135 m, middle zone 370 m, outer zone 440 m from the pipeline [1]. Those figures are for a large, high-pressure gas line and are given here for scale only. HSE has published no methodology or indicative widths for dense-phase CO_2 pipelines; its 2009 research found that at 32 barg the CO_2 outer zone was somewhat narrower than for gas (about 67 m against 100 m) but that dense-phase releases could not then be modelled and "the hazard ranges and therefore risks would be expected to be substantially larger" [7]. Two consequences follow for anyone with land or property along the corridor. **The zones will not exist until after consent, when the operator notifies HSE — so at examination there will be no HSE zones unless the applicant produces its own equivalent — and their eventual width, for a 36-inch dense-phase line, is unknown to everyone including, for now, HSE.**

Effect on development and on plans

The practical effect of the zones is on the developability of land, not on existing use. A house within the inner zone is unaffected as a dwelling; an application to build more houses there will attract HSE's advice against. A farm within the middle zone may continue farming; an application to convert barns to a care home or a nursery will attract advice against; holiday lets or a farm shop, as level 1 or 2 uses, may not. Local Plan allocations and Neighbourhood Plan site proposals falling within the zones become vulnerable; HSE is also a consultee on local plans. The zones persist for the life of the pipeline and are recalculated only if the pipeline's notified particulars change.

Statutory blight

The statutory blight regime allows certain owners of land that is to be compulsorily acquired to require the acquiring body to buy it now. The Planning Act 2008 added DCO land to the scheme: land "falls within" the blight provisions if "(a) the compulsory acquisition of the land is authorised by an order granting development consent, or (b) the land falls within the limits of deviation within which powers of compulsory acquisition conferred by an order granting development consent are exercisable, or (c) an application for an order granting development consent seeks authority to compulsorily acquire the land" [8]. The earliest trigger is therefore the submission of an application seeking compulsory powers — for Peak Cluster, not before September 2027 on the applicant's programme. **No blight notice can be served in respect of the present consultation corridor, a "preferred route", or land near but outside the order limits.**

Who may serve a notice is narrowly defined [9][10]: the resident owner-occupier of a dwelling; the owner-occupier of an agricultural unit who has occupied the whole unit for six months; and the owner-occupier of business premises with a rateable value not exceeding £36,000 [11]. Freeholders and tenants with at least three years unexpired qualify as owners; investors, landlords and short-term tenants do not. The claimant must also show inability to sell "except at a price substantially lower" than but for the scheme; and, while the application is merely pending (rather than consented with powers exercisable), must also have made reasonable endeavours to sell [12]. The promoter may serve a counter-notice on the grounds, among others, that it does not propose to acquire the land, or that the interest does not qualify [13]. A farmer whose unit is partly taken may require purchase of the whole where "the unaffected area is not reasonably capable of being farmed" as a separate unit [14]. One point remains open on the face of the statute: paragraph 24 speaks of "compulsory acquisition of the land", whereas a pipeline DCO typically acquires rights (an easement) rather than the freehold, and whether the blight provisions extend to rights-only acquisition has not been authoritatively resolved.

Compulsory acquisition of rights and the compensation code

A DCO applies the compulsory purchase code with modifications. Section 125 of the Planning Act 2008 applies Part 1 of the Compulsory Purchase Act 1965; section 126 provides that the order "may not include provision the effect of which is to modify the application of a compensation provision" except so far as necessary to apply it to the acquisition, and "may not include provision the effect of which is to exclude the application of a compensation provision" [15]. The Viking CCS Carbon Dioxide Pipeline Order 2025 — the first UK CO_2 pipeline DCO and the closest precedent for the form Peak Cluster's order is likely to take — shows how the code is adapted where rights rather than land are taken: compensation is to have regard "not only to the extent (if any) to which the value of the land over which the right is to be acquired … is depreciated by the acquisition of the right … but also to the damage (if any) to be sustained by the owner of the land by reason of its severance from other land of the owner, or injuriously affecting that other land" [16]. Market value is assessed under the Land Compensation Act 1961 rules: "the amount which the land if sold in the open market by a willing seller might be expected to realise", with disturbance and other losses "not directly based on the value of land" assessed separately [17].

The Valuation Office Agency's manual describes the approach for easements: "valuers should assess the compensation on the basis of the diminution in the open market value of the land" — a before-and-after valuation — and records that in the leading tribunal decision on an electricity easement the award was about 2% of the land's value, against 15–20% claimed [18]. The only published UK pipeline payment schedule found is National Gas Transmission's for new gas pipeline

assets: an easement payment of “80% of the agreed agricultural land value over the easement width (minimum land value £7500/hectare)” and “50% of the agreed non-agricultural land value”, with crop loss, damage and disturbance “paid on a proven loss basis” [19]. That is a gas transmission operator’s voluntary schedule; the applicant is not bound by it, has not published its own, and should be asked what terms it will offer for the permanent easement and on what basis. Reasonable professional fees incurred in pursuing a statutory compensation claim are in general recoverable as part of the claim [20].

Temporary possession for construction is a separate head. The statutory temporary-possession scheme in Part 2 of the Neighbourhood Planning Act 2017 has never been brought into force [21]; the power and the compensation therefore come from the order itself. Viking’s order requires the undertaker to give up possession within a year of completion, to “remove all temporary works and restore the land to the reasonable satisfaction of the owners”, and to pay compensation “for any loss or damage” [22].

Depreciation caused by the *use* of the completed works is compensable under Part 1 of the Land Compensation Act 1973, which the Planning Act 2008 applies expressly to DCO works [23]. The compensable “physical factors” are exhaustive: “noise, vibration, smell, fumes, smoke and artificial lighting and the discharge on to the land … of any solid or liquid substance” [24]. A buried pipeline in normal operation produces none of them; the provision is realistically engaged only by above-ground installations — noise and lighting at a block valve or pumping station, or venting. Claims cannot be made until a year after first use, must be made by a qualifying owner-occupier, and do not extend to loss of value from the mere presence of the pipeline or from perceived risk.

The easement strip

Published operator terms show what a pipeline easement contains. Cadent’s guidance describes an easement as “a secure right in perpetuity (forever) to install, lay, maintain, inspect, protect, renew and replace” the pipeline, which “puts some limits about what the landowner can do within the easement strip, including preventing buildings being erected, soil being added or removed over the pipe, and prohibits certain types of trees being planted”, and which “transfers with the land” [25]; its standard easement width for 36–48 inch pipe is 24.4 m [26]. National Grid’s specification for working near its high-pressure pipelines states that easements “may vary in width typically between 6 and 25 metres”, that “no topsoil or other materials shall be stored within the easement without the written permission” of the operator, and that landowners should consult before “deep cultivation in excess of 0.5 m” [27]. The industry association’s model wording restricts “all construction works; the erection of any building whether temporary or permanent; fencing, ditching and the planting of trees; anything that materially raises or lowers the depth of the cover of the pipeline; the storage of any items” without written permission [28]. The applicant’s own factsheet lists as permitted “normal agricultural activity (crops, grazing); farm tracks, fences, drystone walls, hedgerows”, and as prohibited “new buildings or structures” and “certain deep-rooted trees or plants” [29]. The width of the applicant’s easement, the extent of the restrictions, and whether any land is to be acquired freehold (at block valve sites, for instance) have not been published.

Agricultural land and the construction period

The applicant states a working width of 30–40 m (50 m near the coast), open-trench construction in sections between April and October, main compounds in place for up to three years, and reinstatement “as closely as possible to its original use” [29]. The policy and precedent framework for that reinstatement is as follows.

- **Soils.** Defra’s *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites* (2009) remains the reference document: a soil resource survey before earthworks; topsoil and subsoil stripped and stored separately; no handling of soils wetter than their plastic limit; stockpiles limited in height and slope; subsoil decompacted before topsoil is replaced [30]. The Code is not legally binding and Defra notes it has not been updated since 2009; but EN-4 directs that mitigation for pipelines “should include appropriate treatment of soil … in line with the principles and practices outlined in the Code” and encourages applicants to “develop and implement a Soil Resources and Management Plan” [31]. Viking’s order requires a soil management plan within its construction environmental management

plan and reinstatement of temporarily used land “to a condition fit for its former use … within 12 months of completion” [32].

- **Land drainage.** Reinstatement of field drainage cut by the trench is the commonest long-term agricultural complaint about pipelines. No generic operator commitment was found; Viking’s order allows drainage installed during construction to remain and requires restoration to the owner’s reasonable satisfaction [22]. The applicant should be asked for a drainage survey, pre- and post-construction, and a defects period.
- **Agricultural land quality.** Best and most versatile land is grades 1, 2 and 3a; Natural England must be consulted where development not in accordance with the development plan is likely to cause the loss of 20 hectares or more of it [33]. The National Planning Policy Framework directs that “where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred” [34]. A pipeline’s permanent land-take is small, but the working width across 200 km is not, and the Agricultural Land Classification survey of the route should be published.
- **Agri-environment agreements.** Loss of management control of land in a Sustainable Farming Incentive agreement must be notified and may lead to removal of the land and repayment; the 2026 terms recognise “compulsory purchase of land by a third party” as a good reason for a breach [35]. The Countryside Stewardship terms are narrower — “expropriation of all or a large part of the Holding (provided that the expropriation could not have been anticipated …)” — which a pipeline strip may not satisfy [36]. Farmers in schemes should raise this with the Rural Payments Agency before construction and with the applicant as a head of loss.
- **Biosecurity.** Construction traffic and personnel crossing multiple holdings carry plant- and animal-disease risk. No pipeline-specific official guidance was found; the matter falls to be secured through the construction environmental management plan and individual access agreements.
- **Consents.** A pipeline authorised by a DCO does not need a separate pipe-line construction authorisation under the Pipe-lines Act 1962 [37]; the DCO is the consent, and its requirements are the enforceable conditions.

Property values, insurance and lending

UK evidence is limited and the US evidence concerns natural gas. No Upper Tribunal decision on the quantum of a gas or CO_2 pipeline easement was found; the nearest decision holds that “injurious affection” does not extend to loss from the ongoing presence of neighbouring works [38]. The peer-reviewed US literature, in the leading land-economics and environmental-economics journals, finds no measurable price effect from proximity to a pipeline in normal times; a measurable but transient effect after a well-publicised incident; and a lasting effect only after severe incidents — explosion, ignition or fatality, on above-ground gas distribution pipelines — of the order of 8% within a kilometre and persisting for around eight years [39][40][41]. No peer-reviewed study of property values near CO_2 pipelines exists. No published statement from insurers or mortgage lenders on pipelines was found. **The mechanism with a concrete, documentable effect in the UK is not stigma but the consultation zones: land whose development potential is removed by an HSE advice-against is worth less, and that loss is not compensable under the code unless the land is itself within the order.**

8.3 What is uncertain, contested or not yet disclosed

- **Zone widths for a dense-phase CO_2 pipeline** — not published by HSE; not calculable without the applicant’s pressure and wall thickness; not in existence until after consent.
- **Easement width and terms; freehold acquisition sites; the applicant’s compensation schedule** — not published.
- **Whether statutory blight extends to rights-only acquisition** — unresolved.
- **The Agricultural Land Classification of the route, the soil and drainage management commitments, and the reinstatement standard** — to be tested against the Environmental Statement and the draft order when submitted.
- **Property-value effects** — no CO_2-specific evidence either way.

8.4 Questions the reader may wish to put

To the applicant: Will the Environmental Statement include the applicant's own calculation of the three HSE-style consultation zones for the proposed pipeline, using HSE's dangerous-dose criteria, so that their effect on allocated and proposed development sites can be examined before consent? What easement width and terms are proposed, and where is freehold acquisition sought? What compensation schedule will be offered for easements, temporary possession, crop loss, drainage and disturbance, and will it be at least equivalent to the National Gas Transmission schedule? What are the soil, drainage and reinstatement commitments, and will they be secured as DCO requirements with a defects period? Will the Agricultural Land Classification survey be published?

To the local planning authority: Has the authority mapped its Local Plan allocations, Neighbourhood Plan sites and pending applications against the consultation corridor? Will it require the applicant to provide indicative consultation zones before examination? How will it treat applications within the corridor between now and consent?

To HSE: When will HSE publish its approach to consultation distances for dense-phase CO_2 pipelines, and will it provide indicative distances to planning authorities before the operator's formal notification?

8.5 References

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Part C — The CO_2 economy: users, alternatives, transport and storage

Contents of this Part. Section 9 — Who uses CO_2 in the UK and where it comes from. Section 10 — Utilisation and local capture: what is and is not realistic. Section 11 — Transporting CO_2: pipeline, rail, road and ship compared. Section 12 — The rail network serving the capture sites: existing flows, capacity and upgrades. Section 13 — Storage: where the CO_2 would go, who controls it, and what "decommissioning" can mean. Appendix D — CO_2 transport modes comparison table.

Conventions used in this Part. "The applicant" means Peak Cluster Limited. "The Inspectorate" means the Planning Inspectorate. "MNZ" means the Morecambe Net Zero storage project promoted by Spirit Energy. Legislation is cited to legislation.gov.uk. Trade-body and company statements are identified as such. Where a figure is derived rather than taken from a source it is marked *(derived)* and the assumptions are stated. **Key findings are set in bold** so that they are not lost in the detail; the emphasis marks importance, not certainty — each bold sentence carries the same references and qualifications as the text around it. Two questions recur in this Part — "why not use the CO_2 instead of burying it?" and "why not send it by rail?" — and each is answered with the numbers, because a councillor who puts either question to the applicant should know in advance what a competent answer looks like.

What the applicant has published that this Part relies on. Four capture sites: Holcim's Cauldon cement plant (Staffordshire), Tarmac's Tunstead cement plant, Buxton Lime's Tunstead lime works, and Breedon's Hope cement plant (Derbyshire); investors Summit Energy Evolution Limited, the National Wealth Fund and Progressive Energy through Peak Cluster Limited; the store to be developed by Spirit Energy as MNZ; "over 3 million tonnes of CO_2 emissions annually from 2032"; "around two thirds" of the works' emissions arising from the chemistry of the process rather than fuel; and, as the alternatives it says it considered, relocating the plants to the coast, road tankers ("the estimated number of one-way truck movements added to the roads is 400 each day") and a pipeline [applicant factsheets 1 and 4, March 2026].

Section 9 — Who uses CO_2 in the UK and where it comes from

9.1 Why this matters locally

The first question most people ask about a pipeline that buries three million tonnes of carbon dioxide a year is why, when the country has run short of the gas three times in eight years, it is not used instead. The question deserves a numerical answer rather than a dismissal. This section gives the size of the UK market for CO_2, what it is used for, where it currently comes from and why that supply keeps failing, what capture-for-use already exists, and how those numbers compare with the pipeline's throughput. The comparison is stark, but it is not the whole story: a small fraction of a cement plant's CO_2 could in principle displace imported merchant gas, and the Government opened a call for evidence on exactly that problem in June 2026.

9.2 What is established

The size of the market

The only Government-commissioned estimate is in the BEIS study of CO_2 utilisation by Ecofys and Imperial College (2017): "it is estimated that the total size of the UK market in 2016 was in the range of 400–500 $ktCO_2$/yr", and the market "has been short in recent years … requiring CO_2 to be imported from northern Europe" [1]. The Food and Drink Federation's post-mortem of the 2018 shortage, a trade-body document, puts the figure at "around 600kt CO_2" a year, growing "at approximately 2–3% a year" [2]. No more recent official tonnage has been published; the Department for Business and Trade's June 2026 call for evidence gives none, but states that "currently, the majority of UK demand for CO_2 is imported, with domestic sources only making a relatively small contribution" [3]. A working range for this briefing is therefore **0.4–0.6 million tonnes a year**, on a 2016–2019 basis.

What it is used for

The Government's own lists of critical uses are: "healthcare, medicine, nuclear power generation, food and drink processing, animal slaughter, water treatment" and "beverage, food processing, healthcare, horticulture, nuclear, chemicals, and manufacturing" [3]. Within food and drink the uses are carbonation, modified-atmosphere packaging, chilling and freezing, and the stunning of pigs and poultry before slaughter [4]. The FDF's indicative split of demand — food and drink 50–60%, fire suppression about 20%, medical about 10%, the energy industry about 10%, other industry about 10% — comes from a trade body, sums to more than 100%, and should be treated as an order of magnitude only [2]. Two points matter for the comparison that follows. First, almost every one of these uses releases the CO_2 back to the atmosphere within days or weeks; using CO_2 in a drink or a packaging tray is not the same as keeping it out of the atmosphere. Second, the quantities are small relative to industrial emissions: the BEIS study's projection for the entire UK utilisation market in 2030, across every pathway it examined, was "113–624 $ktCO_2$/yr", which it noted "is less than 1% of the current CO_2 emissions in the UK" [1].

Where UK CO_2 comes from, and why it keeps failing

Merchant CO_2 is a by-product. Before 2021 about 60% of UK supply came from two ammonia plants — CF Fertilisers at Billingham on Teesside and Ince in Cheshire — about a fifth from bioethanol production (principally Ensus at Wilton, with a capacity of about 250,000 tonnes a year), and about a fifth from imports [2][5]. Because the supply is a by-product, it stops whenever the parent plant stops, and the parent plants have stopped often:

- **June–July 2018.** Maintenance and breakdowns at UK and European ammonia and bioethanol plants coincided with a heatwave and the football World Cup; Defra convened its food-chain emergency group on 20 June and supply was described as back to normal on 10 July [2][6].
- **September 2021.** CF Fertilisers halted both ammonia plants because of gas prices. The Government agreed on 21 September to provide "limited financial support" for three weeks to

restart Billingham, describing CF as producing “around 60 per cent of UK’s CO_2”; it made an order under the Competition Act 1998 (SI 2021/1169) so that CO_2 buyers could agree collectively to pay a higher price; and on 11 October it announced an industry agreement to keep the plant running “without further taxpayer support” [7][8][9]. The Explanatory Memorandum to the order records that a shortage “would have significant impacts across wider industry, including in animal welfare, food processing, and use in nuclear and healthcare” [8].

- **2022–2023.** CF closed Ince permanently (announced June 2022), halted ammonia production at Billingham (August 2022) and in July 2023 proposed the permanent closure of the Billingham ammonia plant, moving to imported ammonia; ammonia-derived CO_2 from CF ceased with it [10][11]. The Commons Environment, Food and Rural Affairs Committee recorded that in 2021 “the (then) two CF Industries plants had accounted for 60% of the UK food supply chain’s CO_2 needs” and that meat processors had “experienced a 20-fold increase in the price of CO_2” [4].
- **2025–2026.** The Vivergo bioethanol plant at Hull closed in August 2025 and Ensus suspended production in September 2025. On 26 March 2026 the Government “directed Ensus UK Limited to restart production” for an initial three months, to shore up supplies “vital for Britain’s nuclear, packaged meats, fresh food and healthcare” [12][13]. The June 2026 call for evidence states plainly that “the UK CO_2 industry lacks resilience and has been subject to repeated market failures in 2018, 2021 and 2026 requiring government intervention” and that “closures of important production facilities in the fertiliser and bioethanol industries have significantly reduced UK supply of CO_2 from traditional sources” [3].

The picture, then, is of a market of about half a million tonnes a year, now mostly imported, whose domestic sources have been closing one after another.

Capture-for-use in the UK today

The UK has one industrial-scale plant that captures CO_2 from a flue and sells it: Tata Chemicals Europe’s plant at Northwich, opened in June 2022, which captures “40,000 tonnes of carbon dioxide each year” from the exhaust of its gas-fired power plant, purifies it “to food and pharmaceutical grade”, and uses it to make sodium bicarbonate; it cost £20 million, with a £4.2 million Government innovation grant [14]. Other capture-for-use is smaller still: O.C.O Technology captured “nearly 13,000 tonnes of CO_2” across its plants in a year into carbonated aggregate made from incinerator residues [15]; Carbon8’s units at cement works handle up to 12,000 tonnes of feedstock each a year, absorbing a fraction of that weight as CO_2 [16]; British Sugar supplies about 30,000 tonnes a year of biogenic CO_2 from its Wissington bioethanol plant to Air Liquide and uses factory CO_2 in its own glasshouse [17]. Drax’s capture pilots produced around a tonne a day and vented it [18].

The scale comparison

The arithmetic is set out in Table 9.1 *(derived)*.

Table 9.1 — Peak Cluster’s throughput against UK demand and existing capture-for-use

Comparator	Tonnes CO_2 per year	Peak Cluster (3 Mt) as a multiple
UK merchant CO_2 demand, BEIS/Ecofys 2016 estimate (midpoint 450 kt)	400,000–500,000	c. 6–7 ×
UK merchant CO_2 demand, FDF 2019 estimate	c. 600,000	c. 5 ×
Northwich capture-for-use plant (largest in UK)	40,000	75 ×
BEIS/Ecofys projection of the entire UK utilisation market in 2030	113,000–624,000	c. 5–27 ×
UK cement and concrete	6,600,000	0.45 ×

Comparator	Tonnes CO_2 per year	Peak Cluster (3 Mt) as a multiple
sector emissions, 2023 (MPA, trade body) [19]		

Three conclusions follow. **The pipeline's throughput is five to seven times the entire UK market for CO_2 as a product, and dozens of times the largest existing capture-for-use plant.** Even if every tonne of merchant CO_2 consumed in the UK were supplied from cement-plant capture, more than 80% of the pipeline's throughput would still have to go somewhere else. And merchant use does not remove the CO_2 from the atmosphere; it delays its release by days.

The legitimate residual point

None of this means that capture at cement works has nothing to offer the merchant market; the opposite. The Northwich plant demonstrates that flue-gas CO_2 can be purified to food and pharmaceutical grade at a scale of tens of thousands of tonnes, for £20 million and within about three years of announcement; the Government's June 2026 call for evidence is explicitly looking for ways to make domestic supply more resilient; and a cement cluster that will be capturing three million tonnes a year is, on the face of it, the largest single candidate in the country to replace the imported majority of a market that has failed three times. **The scale comparison above says only that re-use cannot absorb all of the CO_2; it says nothing against re-use of part of it.** That option — capture for re-use with investment, with or without storage of the balance — is set out as a distinct option in Section 10, with the demand that policy is now creating for CO_2 as a fuel feedstock. Whether the applicant or its partners have considered a merchant or feedstock offtake, at what purity, and whether the capture and pipeline design allows for it, is a fair question on which nothing has been published.

9.3 What is uncertain, contested or not yet disclosed

- **The current size of UK demand** — no official tonnage since the 2016-basis estimate; the FDF figure is a trade body's.
- **The import share** — the Department for Business and Trade says "the majority"; some press reports say a quarter; the Government figure is used here.
- **The nuclear use** — the advanced gas-cooled reactors are a Government-designated critical user, but the quantity is unpublished.
- **Whether Ensus support was extended** beyond the initial three months from March 2026 — no notice found.
- **Any merchant-supply intention on the part of the applicant or its partners** — not published.

9.4 Questions the reader may wish to put

To the applicant: Has the applicant or any capture-site partner assessed supplying food- or industrial-grade CO_2 to the UK merchant market from the captured stream, and if so at what tonnage and cost? Does the pipeline and capture design allow a purified side-stream to be taken off? Has the applicant responded to the Department for Business and Trade's June 2026 call for evidence on CO_2 supply resilience?

To the Department for Business and Trade / DESNZ: Does the Government's policy on CO_2 supply resilience contemplate supply from carbon-capture clusters, and if so is any business-model support available for the purification and offtake infrastructure?

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Section 10 — Utilisation and local capture: what is and is not realistic

10.1 Why this matters locally

Could the CO_2 be sold or turned into something — food-grade gas, building materials, fuel — rather than piped to the sea? And could the cement and lime works reduce their emissions enough by other means to make capture unnecessary? These are the two forms of the "local" question, and they need to be kept apart from a third that is often confused with them: whether *all* of the CO_2 has to go the same way. The technical literature gives clear answers to the first two. Utilisation cannot absorb three million tonnes a year, and most uses store nothing permanently; the other decarbonisation levers are real but leave the calcination CO_2 — roughly two-thirds of the total — untouched. That is why every authoritative roadmap, and the Climate Change Committee, treats capture and geological storage as necessary for cement and lime at full scale. But the third question has a different answer. Capturing a fraction of the CO_2 for re-use — replacing imported merchant gas, supplying horticulture and construction products, and feeding the synthetic aviation fuel that the law now requires — is a distinct option that needs purification plants, wagons and terminals rather than a 200 km pipeline and an offshore store; that infrastructure is ordinary industrial plant that can be bought; and a partial solution needs assessing on its own merits rather than set aside for being partial. This section sets out the numbers for utilisation, the other levers, the capture technology, and then that distinct option, so that a reader can ask the applicant why it is not among the alternatives it says it considered.

10.2 What is established

Where the CO_2 comes from in a cement or lime kiln

Cement clinker is made by heating limestone (calcium carbonate) until it gives up its carbon dioxide and becomes calcium oxide. That reaction releases, by fixed chemistry, about 0.52 tonnes of CO_2 for every tonne of clinker, and about 0.75 tonnes for every tonne of quicklime [1]. The fuel burned to reach kiln temperature adds the rest. The IEA and the cement industry's own technology roadmap put the split at "typically, 30–40% of direct CO_2 emissions comes from the combustion of fuels; the remaining 60–70% comes from the chemical reactions involved in converting limestone to calcium oxide" [2]; the Mineral Products Association puts process emissions at "around 70% of a site's emissions" for cement and "60 to 70%" for lime [3][4]. The Climate Change Committee's statement of the consequence is direct: capture "can abate emissions that cannot be addressed simply by switching to low- or zero-carbon energy. This includes capturing non-combustion process CO_2 emissions (from chemical reactions such as the calcination of limestone in cement production)" [5]; and, in its Seventh Carbon Budget advice of February 2025, "CCS [is] used in industrial subsectors with process emissions for which alternatives are unlikely to be available. This results in CCS being deployed in the chemicals and cement and lime industries" [6].

The capture sites and their emissions

The four sites are described in Table 10.1 from regulator and applicant sources. Site-by-site verified emissions are published annually in the UK Emissions Trading Scheme registry reports; they could not be retrieved for this draft and should be added (see the editorial notes).

Table 10.1 — The Peak Cluster capture sites

Site	Operator	Product and capacity (source)	Rail connection (Section 12)
Hope Cement Works, Hope Valley, Derbyshire (inside the Peak District National Park)	Breedon	Cement; "approximately 1.45 million tonnes per annum" from two kilns (applicant's Scoping Report); "circa 15% of the UK's domestic	Active branch line since 1929; cement out, raw materials in [8]

Site	Operator	Product and capacity (source)	Rail connection (Section 12)
		cement needs” (National Park Authority) [7][8]	
Tunstead Cement Plant, near Buxton, Derbyshire	Tarmac	Cement; permitted at around 2 million tonnes a year on one operating pre-calciner kiln and a second permitted but not yet built (Environment Agency permit); actual output not published [9]	Active; one of the largest rail-served quarries in the country
Tunstead Lime Works (within the Tarmac site)	Buxton Lime (SigmaRoc)	Quicklime and hydrated lime; shaft and Maerz kilns permitted at just under 1 million tonnes a year [9]	Shares the Tunstead sidings
Cauldon Cement Plant, Staffordshire Moorlands	Holcim UK	Cement; “up to 1 million tonnes of cement per annum”; “approximately 10% of the cement used in Great Britain” (county council report); over 40% of heat from alternative fuels [10] [11]	No operational rail link; the Cauldon Lowe branch is leased to a heritage railway

The cluster’s total emissions are “approximately three million tonnes of CO_2 per year” (Inspectorate meeting note, January 2024) [12]. The National Wealth Fund’s factsheet on its July 2025 investment records a pipeline capacity of “up to 6.6 Mtpa” — roughly double the emissions of the four sites — which implies that the pipeline is being sized for emitters beyond the present consortium [13]. The consortium has changed: at launch in May 2023 it comprised five plants owned by Tarmac, Breedon, Lhoist and Aggregate Industries together with the Lostock energy-from-waste plant in Cheshire; the Inspectorate’s meeting note of July 2024 lists Lhoist’s and SigmaRoc’s Hindlow lime plants among the emitters; the January 2026 Scoping Report lists four capture sites and neither Hindlow works [12] [14][15]. Lhoist’s withdrawal has been reported in the press but not confirmed in any primary source; the Inspectorate’s July 2024 note records that the pipeline runs past the Lostock plant and “can be connected to it at a future date” [12].

Utilisation: the numbers

The International Energy Agency’s review of CO_2 utilisation (2019) is the standard reference [16]. Global use is “some 230 million tonnes” a year, of which “130 Mt CO_2 is used in urea manufacturing” and “70 to 80 Mt CO_2 for enhanced oil recovery” — neither relevant to the UK. Its central warning is that “CO_2 used is not the same as CO_2 avoided” and that “using CO_2 in products or services does not necessarily reduce emissions”: the CO_2 is retained for “less than one year for fuels, up to ten years for most chemical intermediates, to hundreds of years for polymers, while storage in building materials could last for millions of years”. Synthetic fuels made from CO_2 cost “2 to 7 times” their fossil equivalents, with electricity “40–70% of the production costs”. The Royal Society’s assessment (2017) is that “technologies using carbon dioxide are likely to account for less than 1% of global emissions reduction” [17]. The most-cited peer-reviewed synthesis, Hepburn and colleagues in *Nature* (2019), finds that fuels and chemicals “move carbon through industrial systems over timescales of days, weeks or months” and “do not provide net CO_2 removal”, whereas construction

materials “can both utilize and remove carbon dioxide”, with a 2050 global potential of “between 0.1 and 1.4 Gt CO_2 yr^{-1}” at breakeven costs of “−$30 to $70 per tonne of CO_2” [18].

Applied to the UK and to this cluster *(derived, assumptions stated)*:

- **Mineralisation into construction products** is the only pathway that stores CO_2 durably, and it is real: the O.C.O and Carbon8 plants do it today, at a combined scale of the order of ten to twenty thousand tonnes a year (Section 9). The feedstocks are alkaline wastes — incinerator residues, cement kiln dust, crushed concrete. England produces about 63 million tonnes of construction and demolition waste a year [19]; if 20 million tonnes of concrete fines were carbonated at 10–25 kg of CO_2 per tonne, the national absorption would be 0.2–0.5 million tonnes a year — between a fifteenth and a sixth of the pipeline’s throughput, spread across the whole country, not at the works.
- **Synthetic fuels.** The carbon accounting here is easily misstated and needs to be stated exactly. A synthetic fuel made from captured CO_2 releases that CO_2 when burned — but it is burned *instead of* a fossil fuel, whose carbon stays in the ground. **Per tonne of CO_2, the outcome is the same as storing the cement CO_2 and burning fossil fuel: one tonne emitted rather than two.** Set against today’s position — cement CO_2 vented and fossil fuel burned — it halves the emissions; set against storage plus fossil fuel, it is equal in CO_2 and different in what it displaces, which is imported oil rather than nothing. The IEA’s caution that “CO_2 used is not the same as CO_2 avoided” is a warning against double-counting, not a finding that fuels are pointless. What limits synthetic fuels is energy and cost, not accounting. Turning 3 million tonnes of CO_2 into e-methanol would yield about 2.1 million tonnes of methanol (global production is about 98 million tonnes) and require about 0.4 million tonnes of green hydrogen — on standard electrolysis figures, some 20 TWh of electricity a year, about 7% of current UK generation [20]; and the IEA’s cost ratio of two to seven times fossil fuel is why no one proposes it at that scale. At a smaller scale, however, the law now requires it: the UK’s Sustainable Aviation Fuel Mandate obliges fuel suppliers to include power-to-liquid kerosene — made from hydrogen and “an eligible source of CO_2” — rising, on the Department for Transport’s headline figures, from 0.5% of total jet fuel in 2030 to 1.5% in 2035 and 3.5% in 2040 (the Order itself expresses these as 0.556%, 1.765% and 4.487% of suppliers’ obligated fossil fuel) [40][41][44]. On the Department’s fuel-demand projections — around 11.5 million tonnes in 2025 and 10.5–12.2 million in 2040, with 2035 interpolated — and about 3.1 tonnes of CO_2 per tonne of e-kerosene, that is a policy-created demand of roughly 0.2 million tonnes of CO_2 a year in 2030, 0.5–0.6 million in 2035 and 1.1–1.3 million in 2040 *(derived)* [42][43]. The Order’s only exclusion on the carbon side is CO_2 from “a carbon source that has been generated for the purpose of converting it into a fuel for use in aircraft”; it contains no exclusion of industrial point-source CO_2 [40]. The Department’s separate guidance on recycled carbon fuels treats waste fossil CO_2 as having “zero lifecycle greenhouse gas emissions up to the point of collection”, subject to conditions including that the emitter does not also claim the reduction [44]; but that guidance governs recycled carbon fuels, and no Departmental ruling on the CO_2 sources eligible for power-to-liquid fuel has been published. Whether cement-kiln CO_2 will be accepted as an eligible source is therefore open.
- **Greenhouse enrichment** — the BEIS study’s projection for all UK horticulture in 2030 was 108,000–218,000 tonnes a year [21].
- **Merchant supply** — the entire UK market is 0.4–0.6 million tonnes, the majority of it now imported (Section 9).

The Government’s position on utilisation as a climate measure, in the CCUS Vision of December 2023, is that it will “engage with industry to consider the role of Carbon Capture and Usage … where CO_2 is permanently abated via non-geological storage” — that is, mineralisation [22]. Its position on utilisation as a supply-resilience measure is the June 2026 call for evidence (Section 9). The two policies have not been joined.

The other levers, and what they leave

Every cement roadmap uses the same set of levers, and every one of them assigns the largest single share of the reduction to capture:

- The Mineral Products Association's UK roadmap (2020, trade body) attributes about 61% of the required saving to carbon capture, with the balance from fuel switching, clinker substitution and low-carbon cements, transport and electricity decarbonisation, and the natural re-absorption of CO_2 by concrete over its life [23].
- The IEA and Cement Sustainability Initiative roadmap (2018) attributes about 48% of cumulative reductions to 2050 to "innovative technologies including carbon capture", about 37% to reducing the clinker content of cement, and about 12% to fuel switching [2].
- The Global Cement and Concrete Association's 2050 roadmap attributes 36% to "carbon capture and utilisation/storage" and 22% to "efficiency in design and construction" [24].

The non-capture levers are worth setting out because they are the ones a "do it differently" argument relies on:

- **Less clinker per tonne of cement.** BS 8500-1:2023 (published November 2023) extended the general-purpose cements permitted in UK concrete to the multi-component cements of BS EN 197-5, which combine limestone powder with slag or fly ash [39]. The constraint is supply of the substitutes: ground granulated blast-furnace slag comes from blast furnaces, and the UK has been closing them; fly ash comes from coal power stations, which the UK no longer has. Calcined clay (the "LC3" cements) is the scalable substitute and is at trial stage in the UK.
- **Alternative fuels.** Hope reports 39% fossil-fuel replacement and Cauldon over 40% with a planned rise towards 90% [10][11][25]. This addresses only the combustion third.
- **Electric or indirectly heated kilns.** Indirect calcination (LEILAC) separates the heat source from the reaction and produces "a high purity stream of process carbon dioxide" — which still has to be stored [26]. Electric kiln technologies are at pilot scale and, again, do not remove the calcination CO_2.
- **Oxyfuel kilns**, which burn fuel in oxygen to produce a concentrated CO_2 exhaust that is cheaper to capture: CI4C, a research company formed by four cement manufacturers including Heidelberg Materials, inaugurated a 450-tonne-a-day demonstration kiln at Mergelstetten, Germany, in July 2026 [27]. This is a capture technology, not an alternative to it.
- **Novel cements.** The applicant's own factsheet names Material Evolution's MevoCem; Cambridge Electric Cement, published in *Nature* in 2024, proposes recycling old cement paste in steel electric-arc furnaces and estimates a global abatement potential of "2 Gt of CO_2" — but all of these are early-stage, require years of performance testing before use in structural concrete, and none can be applied to the lime kilns [28][29].
- **Using less cement.** The GCCA's 22% and the Climate Change Committee's finding that "resource efficiency measures have the most substantial impact on the cement & lime and iron & steel sectors" are real, but they reduce demand for the product, not the emissions per tonne of what is still made [5][24].

The Minister's statement to the Commons in October 2025 summarised the Government's view: reformulation and reduced cement use together might deliver of the order of a 40% reduction; the remainder requires capture [30].

Capture at cement plants: status, cost — and geography

Post-combustion amine capture at a cement plant is operating at industrial scale: Heidelberg's Brevik plant in Norway, inaugurated in June 2025, captures "around 400,000 tonnes of CO_2 per year", half the plant's emissions, and ships it to the Northern Lights store [31]. The UK comparator is Heidelberg's Padeswood plant in Flintshire, part of the HyNet cluster, designed for "around 800,000 tonnes a year" with a "10km spur pipeline" to the HyNet network, now under construction [32].

Before the costs, the geography, because it is the point on which these comparators stop being comparable. Brevik stands on the coast in Porsgrunn municipality, and its project scope is "capture, liquefaction, pipe transfer, storage on quay": the captured CO_2 is liquefied at the works, held on its own quay and shipped from there [31][52]. Padeswood stands in Flintshire some seven or eight kilometres in a straight line from the tidal Dee at Connah's Quay *(derived from Ordnance Survey positions)*, and its "10km spur pipeline" connects it to a cluster pipeline funded under the

Government's Track-1 programme [32]. Another Heidelberg project, GeZero at Geseke in inland Germany, has no such connection and will move its CO_2 by rail to a port "until the necessary pipeline infrastructure is available" (Section 11). **The pattern in the first wave of cement capture projects is that they are at plants which are coastal, port-connected or adjacent to a shared pipeline; inland plants are later, smaller, or served by non-pipeline means.** The Peak District works are the opposite case: they are where the limestone is, with the nearest coast of the order of 80 km away in a straight line across the Pennine foothills and the Cheshire Plain, and they supply over 40% of British cement from that position [51]. That is why the applicant's scheme needs about 200 km of onshore pipeline and 90 km offshore for three million tonnes a year [37], and why the first alternative the applicant says it examined was to move the works to the coast. The BEIS study of capture at dispersed sites described this group as "an inland cluster surrounded by the Peak District National Park … located far from CO_2 storage opportunities", and found transport to a store cost about £27 per tonne by pipeline against £45 by rail *(derived from its £15 and £33 onshore figures plus £12 from terminal to store; 2018 prices; 2.2 Mtpa to Liverpool)* — of which a coastal plant with a quay avoids the onshore leg, though not the sea leg [45].

Three propositions follow, and they should be kept separate because they are usually run together. First, capture and storage may well be the right answer for cement and lime as an industry: the calcination CO_2 has no other abatement route at scale, and the roadmaps and the Climate Change Committee say so (above). Second, it does not follow that this pipeline is the right answer for British cement producers as a group: a national programme that connected the coastal and cluster-adjacent plants first — Padeswood is being connected now — and dealt with inland plants by partial capture for re-use, by non-pipeline transport, or by product-side measures, is a coherent alternative that no published UK document has compared with the applicant's scheme. Third, the location of these particular works may make full capture-and-storage impractical or disproportionate: not because the chemistry differs, but because the transport leg that Brevik and Padeswood avoid is, here, a 290 km pipeline across three counties. **A reader should test the applicant's case against each proposition in turn, and should notice that the applicant's material argues only the first.** The cost is high: the IEAGHG's study of CCS in cement puts the cost of CO_2 avoided at 65–110 € per tonne for post-combustion capture and 40–50 € for oxyfuel, and notes that a cement plant's waste heat covers only "about 15%" of the capture plant's steam demand, so a new combined-heat-and-power plant is needed at each site [33]; the European CEMCAP programme found capture raises the cost of clinker by "49 to 92%" [34]. The Peak Cluster partners have not chosen their capture technology: the applicant's Scoping Report lists amine, non-amine and hot-potassium-carbonate solvents, pressure-swing absorption and cryogenic separation as candidates for the Hope site, and the Inspectorate records that "the final technology to be implemented for the Breedon capture facility has not been finalised" [7][35]; Holcim says it is "choosing between two technologies" with front-end engineering during 2026 [10]; Breedon has begun front-end engineering for Hope [25]. Natural England raised amine emissions from the capture plants in its scoping response [35].

The alternatives the applicant says it considered

The applicant's factsheet lists three: moving the cement and lime plants to the coast (rejected because raw limestone would then travel "by rail or road in many thousands of journeys"); "capture and transport the carbon dioxide emitted by road in trucks" ("the estimated number of one-way truck movements added to the roads is 400 each day" — this is the applicant's figure for carrying the captured CO_2; its separate figure for hauling raw limestone if the works were relocated is "around 1,000 HGV movements a day and 10 long trains per day" [37]); and the pipeline [36]. The first of these deserves more attention than the applicant gives it, because it is a tacit acknowledgement of the problem. The limestone cannot move; the works sit on it; the store is under the sea; and the applicant's first thought was to relocate the works to close the gap. **It rejected that on the cost of hauling the raw material, and chose instead to haul the CO_2 — which closes the same geographic gap from the other end.** Nothing in the factsheet asks whether the mismatch should be closed in full at all: whether, for works in this position, the right answer might be to capture less and use it, to connect coastal and cluster-adjacent plants first, or to accept that the transport leg makes full storage disproportionate here. Those are the questions the geography raises, and the applicant's own alternatives list shows that it has seen the geography. Rail carriage of the captured CO_2 is not among them, although the applicant's website says "we considered all options including using trucks, trains and a pipeline" [37]. Natural England, as statutory consultee, told the Inspectorate at scoping

that “all alternatives should be fully considered and presented for the proposed development, including options for non-piped transportation methods on land and at sea (ship, rail, road) for connection to an offshore carbon storage site, along with elaboration on the preferred use of the Morecambe Net Zero (MNZ) facility”, while accepting that “due to the scale of the industrial cluster, non-piped methods to the coast will likely be discounted” [35]. The EIA Regulations require the Environmental Statement to contain “a description of the reasonable alternatives … studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen” [38]. Sections 11 and 12 supply the numbers against which that description can be tested.

A distinct option: capture for re-use with investment

The alternatives the applicant lists share one assumption — that all three million tonnes must be captured and all of it stored. Drop that assumption and a further option appears which none of the published material addresses: capture part of the CO_2 and sell or use it, with the investment in purification, liquefaction, wagons, tankers and terminals that this requires, and either leave the balance uncaptured for now or store it separately. Two objections are commonly raised against this option; each needs to be tested rather than assumed. The first is that the infrastructure does not exist. It does not; nor does the pipeline. Food-grade purification and liquefaction plant is standard industrial-gas equipment — Northwich was built for £20 million and 40,000 tonnes a year [Section 9]; rail tank wagons for liquid CO_2 are being built in Germany now and the Department’s respondents put the lead time at about two years; in the European merchant CO_2 trade of some three million tonnes a year, “most of the CO_2 is transported by truck or train over land” [Section 11]. An alternatives assessment for a project proposing “around £5 billion of investment” would need to cost that plant, not treat its absence as decisive. The second objection is that re-use cannot take all the CO_2. It cannot; but the objective need not be all of it. If a large fraction of the throughput could be captured and used for a small fraction of the cost of the full scheme, that would be a material finding; whether it can is what an assessment would establish, and the cost split needed to judge it has not been published.

What the demand is. Table 10.2 assembles the demand a re-use option could address, from the sources in Sections 9 and 10 *(derived; each line carries its own uncertainty)*.

Table 10.2 — Indicative UK demand addressable by captured cement and lime CO_2

Use	Now (c. 2026)	2030	2035	2040	Nature of the benefit	Source
Merchant CO_2 (food, drink, medical, nuclear, water, welding): a 0.4–0.6 Mt market of which the imported majority is the addressable part now, the whole market later	0.2–0.5 Mt	0.3–0.6 Mt	0.4–0.7 Mt	0.4–0.7 Mt	Supply resilience; import substitution; no net climate benefit (displaced by-product CO_2 is vented elsewhere)	Section 9 [1][2][3]
Horticulture	small	0.1–0.2 Mt	0.1–0.2 Mt	0.1–0.2 Mt	Domestic supply; CO_2 largely re-released	[21]
Mineralisati	c. 0.02 Mt	0.1–0.3 Mt	0.2–0.4 Mt	0.2–0.5 Mt	Permanent	[18][19]

Use	Now (c. 2026)	2030	2035	2040	Nature of the benefit	Source
on into constructio n products				(national)	storage; qualifies as abatement in principle	
Power-to-liquid aviation fuel under the SAF Mandate	nil	c. 0.2 Mt	0.5–0.6 Mt	1.1–1.3 Mt	Displaces fossil kerosene; CO_2 emitted once instead of twice; eligibility of point-source CO_2 open	[40]–[44]
Total addressabl e	**c. 0.2–0.5 Mt**	**c. 0.7–1.3 Mt**	**c. 1.2–1.9 Mt**	**c. 1.8–2.7 Mt**		
As a share of Peak Cluster's 3 Mt	7–17%	23–43%	40–63%	60–90%		

The table is the reason the option needs assessing. Today, re-use could absorb up to a sixth of the throughput — the imported merchant market. By 2030, with the first synthetic-fuel plants, about a quarter to two-fifths. By 2035 around half, and by 2040, if the aviation mandate is met from point-source CO_2 and construction-products carbonation scales, a majority — though every tonne in the later columns depends on plants that do not yet exist choosing this CO_2 over other sources. The table also shows what each use is for: merchant and horticultural supply are resilience and import-substitution measures, not climate measures; mineralisation is storage; synthetic fuel is fossil displacement.

What it would cost, and what it would avoid. The cost of capture is common to every option; what differs is what happens after the capture plant. The applicant's scheme adds a 200 km pipeline, a coastal compression station, an offshore pipeline and a store. A re-use option adds purification to the grade each customer needs, liquefaction, buffer storage, rail or road loading, and a distribution fleet — the same items the existing merchant industry operates. Two benchmarks exist. The BEIS study of carbon capture at dispersed industrial sites (2020) modelled this very group — "Group 3 (Peak District)": Hope, Tunstead cement and lime, and the Buxton and Hindlow lime works, about 2.2 million tonnes a year — and costed transport by "40 km local pipeline" and "140 km transmission pipeline to Liverpool" at £15 per tonne, by rail at £33 and by road at £36, with a further £12 per tonne from terminal to store [45]. And Northwich's £20 million for 40,000 tonnes a year of food-grade capacity is about £500 per tonne of annual capacity *(derived)*; scaled with the usual economies to a few hundred thousand tonnes, purification and liquefaction for the merchant tranche would cost of the order of £100–250 million *(derived, illustrative)*. The applicant has published no breakdown of its £5 billion between capture plants and the pipeline and store, so the proportion of the whole that a re-use option would avoid cannot be stated from published figures; that is the first thing to ask for.

Why the operators are not proposing it. The incentives point the other way, and the reason is policy rather than engineering. Under the UK Emissions Trading Scheme an installation may deduct captured CO_2 from its emissions only when it is transferred for geological storage (or bound into precipitated calcium carbonate); CO_2 sold for food, horticulture or fuel counts as emitted, exactly as if it had been vented [46]. The Industrial Carbon Capture business model, which is the Government's payment for capture, pays only for CO_2 "delivered to the Transport & Storage system" [47]. **A cement works therefore earns allowances and contract payments for every tonne stored and nothing**

for a tonne sold — unless the customer pays more for the gas than the works forgoes. The merchant price is not published officially; industry reports put it at around £100 per tonne before 2021 and ten to thirty times that at the peaks of the 2021–22 shortages [48]. The Government's response to the UK ETS consultation on non-pipeline transport, which might begin to change the accounting, had not been published at the date of this briefing [49]. This is the point at which the re-use option meets the planning process: the EIA Regulations' requirement to describe the reasonable alternatives studied is not qualified by whether an alternative attracts the same subsidy [38].

The options, side by side. Table 10.3 sets the applicant's scheme against three variants that a complete alternatives assessment would contain.

Table 10.3 — Four ways of dealing with the cluster's CO_2

	A. Applicant's scheme	B. Full capture with re-use side-streams	C. Partial capture for re-use only	D. Partial capture for re-use plus non-pipeline storage of a further tranche
CO_2 captured	c. 3 Mt/yr (pipeline sized to 6.6)	c. 3 Mt/yr	0.3–1.3 Mt/yr now to 2030, potentially more later	1–2 Mt/yr
Where it goes	All to MNZ store by pipeline	Most to store; 0.3–1.3 Mt to merchant, horticulture, mineralisation, e-fuel	All to users by rail/road	Users by rail/road; balance by rail to a port and ship to a store
New infrastructure	Capture plants; 200 km onshore + 90 km offshore pipeline; coastal station; store	As A plus purification, liquefaction, loading, fleet	Capture plants (smaller); purification; liquefaction; loading; fleet; customer terminals. No pipeline.	As C plus port liquefaction/storage/jetty; ships; storage contract. No onshore pipeline.
Climate outcome	c. 3 Mt/yr stored	Slightly less stored; fuel tranche displaces fossil kerosene	Mineralisation tranche stored; fuel tranche displaces fossil fuel; merchant tranche neutral; balance of works' emissions continues, paid for under ETS	As C plus stored tranche
Resilience/ economic outcome	None for CO_2 supply	Domestic supply of the merchant market	Domestic supply; no pipeline; land unaffected	Domestic supply; no onshore pipeline
Policy support today	ETS deduction; ICC-type contract (not yet awarded); NWF equity	As A for stored tonnes; none for used tonnes	None for used tonnes except mineralisation in principle	Non-pipeline transport business model under consultation; ETS deduction for stored tranche
Assessed by the	Yes	No	No	No

	A. Applicant's scheme	B. Full capture with re-use side-streams	C. Partial capture for re-use only	D. Partial capture for re-use plus non-pipeline storage of a further tranche
applicant?				

None of B, C or D is put forward here as preferable; the point is that they exist, that their infrastructure is acquirable, that their scale is not trivial, and that the EIA Regulations require "the reasonable alternatives … studied by the developer" to be described [38]. A reader who asks the applicant why they were not studied is asking a question the regulations invite.

10.3 What is uncertain, contested or not yet disclosed

- **Site-level emissions** — published in the UK ETS registry but not yet tabulated here.
- **The 6.6 Mtpa pipeline capacity** — what additional emitters the applicant expects to connect, and whether any are outside the cement and lime sector.
- **Consortium membership** — Lhoist's status; whether the Hindlow works will connect later.
- **Capture technology, energy demand and site emissions of the capture plants** (steam, amines, water) — not finalised.
- **The applicant's alternatives assessment** — its factsheet is not the assessment; the Scoping Report's section 3.4 has not been read for this draft.
- **The cost of capture at these four sites**, and who pays it (Section 15, when built).
- **The split of the applicant's "£5 billion"** between capture plants and the pipeline and store — the figure a re-use option would be measured against.
- **Eligibility of cement-kiln CO_2 under the SAF Mandate's power-to-liquid obligation** — not excluded by the Order; not confirmed by the Department for Transport.
- **The merchant CO_2 price** — no official series; and whether any partner has been approached by, or has approached, the industrial-gas companies.
- **Food-grade purification of cement flue gas** — demonstrated for gas-turbine exhaust at Northwich and to industrial grade from cement kilns abroad; cement flue gas carries SOx, NOx and dust that add purification steps [50].

10.4 Questions the reader may wish to put

To the applicant: Which additional emitters is the 6.6 Mtpa pipeline capacity sized for, and where are they? Will the Environmental Statement's alternatives chapter present the quantified comparison of pipeline, rail, road and ship, and of alternative stores, that Natural England asked for? What capture technology has each site chosen, what is its steam and power demand, and what will the capture plants' own emissions be? What clinker-substitution and alternative-fuel measures are the partners committed to alongside capture, and what tonnage do they remove before capture? Did the applicant assess capture for re-use — merchant supply, horticulture, mineralisation, synthetic aviation fuel — as an alternative or as a side-stream, and if not why not? What proportion of the £5 billion is the pipeline, coastal station, offshore pipeline and store, as distinct from the capture plants? Has any partner discussed offtake with an industrial-gas company or a power-to-liquid fuel developer?

To DESNZ and the Department for Transport: Is cement-kiln process CO_2 an eligible carbon source for power-to-liquid fuel under the SAF Mandate? Will the UK ETS response on non-pipeline transport, or any subsequent decision, give credit for captured CO_2 that is used rather than stored, and if so for which uses?

To the local planning authorities and the National Park Authority: Have the capture plants themselves — new industrial buildings, stacks, steam plant and amine storage at Hope (inside the National Park), Tunstead and Cauldon — been assessed for their own planning and environmental effects, separately from the pipeline?

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Section 11 — Transporting CO_2: pipeline, rail, road and ship compared

11.1 Why this matters locally

The pipeline is the thing that crosses the parish; the CO_2 and the store are elsewhere. So the question “why a pipeline?” is, for the people along the route, the central one. The applicant’s factsheet says it considered moving the works to the coast, road tankers and a pipeline. It does not say it considered rail, although its website says it did, and the statutory nature-conservation body has asked it to present the comparison properly. This section gives the physical and economic basis on which the modes compare, works the numbers for three million tonnes a year, sets out what the authoritative cost studies conclude, and records what has actually been done elsewhere. The conclusion the evidence supports — that at this tonnage and distance every authoritative source has the pipeline as the lowest-cost and most practised option, and that rail at this scale is unprecedented — is stated plainly. The legitimate demand is that the applicant show the comparison, not that the answer be different.

11.2 What is established

The physical basis

A pipeline carries CO_2 as a dense fluid at 80–150 bar and ground temperature (Section 5). Every other mode carries it as a refrigerated liquid in a pressure vessel: ships at around 7 bar and −50 °C or 15–20 bar and −20 to −30 °C; rail and road tankers at around 12–20 bar and −25 to −30 °C [1][2][3]. Liquid CO_2 at −30 °C has a density of about 1,076 kg/m³ (NIST data) [4], so the mass per vehicle is set by the tank’s weight limit rather than its volume. The published capacities are: a European rail tank wagon of about 60 tonnes of CO_2 (the figure the German rail freight operator DB Cargo gives for the fleet it is developing — a trade-press report of a company statement) [5]; a US tank car of about 76–80 tonnes, on a heavier axle load than the UK allows [6][7]; a road tanker of 20–25 tonnes [8][9]; and ships from the 1,200–1,800-tonne vessels of the existing food-grade trade to the 7,500 m³ (about 8,000-tonne) Northern Lights ships and designs of 30,000–50,000 tonnes [1][2][10].

Two costs attach to every non-pipeline mode and to none of the pipeline options. The first is **liquefaction**. CO_2 arriving from a capture plant at low pressure needs roughly 100–125 kWh of electricity per tonne to liquefy [1][11]; the much lower figures sometimes quoted (15–25 kWh/t) assume the CO_2 has already been compressed to pipeline pressure [1][11]. The European Zero Emissions Platform costs liquefaction at about €5.3 per tonne [12]. The second is **handling**: every tonne is loaded, moved, unloaded, held in insulated buffer storage at each end (with re-liquefaction of the boil-off), and — for ship transport — pumped into a vessel at a jetty. The Department for Energy Security and Net Zero’s consultation respondents put the lead times at “rail cars – 24 months”, “ships – 36 months” and “jetties – 36–60 months” [13].

The numbers for three million tonnes a year *(derived)*

Three million tonnes a year is about 8,200 tonnes a day, every day.

- **By road**, at 20–25 tonnes a load: 330–410 loaded journeys a day, 660–820 movements including empty returns. The applicant’s figure for carrying the captured CO_2 by road — “the estimated number of one-way truck movements added to the roads is 400 each day” — is consistent with loaded journeys only; total movements would be about twice that. (Its separate figure of “around 1,000 HGV movements a day and 10 long trains per day” refers to hauling raw limestone if the works were relocated to the coast, not to CO_2 [16].) For comparison, Cauldon’s fuel deliveries are about 42–44 lorry movements a day [14].
- **By rail**, at 60 tonnes a wagon: about 137 loaded wagons a day. In trains of 20–25 wagons (1,200–1,500 tonnes), six to seven loaded trains a day and as many empties — twelve to fourteen train movements — spread across the loading points at Hope, Tunstead and (if it had a railway) Cauldon and converging on a single coastal terminal. The German benchmark points the same way: DB Cargo’s study of rail supply to a Wilhelmshaven terminal, reported in August 2026, envisages about eleven trains a day in each direction by 2030 rising to

seventeen by 2033, and a national rail capacity of about four million tonnes a year [5][15]. The applicant's own figure of "10 long trains per day" was given for moving raw limestone, not CO_2, and does not include liquefaction [16].

- **By ship**, from a coastal terminal: at 7,500 m³ a ship, roughly one loading a day; the terminal would need buffer storage of more than one shipload and a jetty with liquid-CO_2 loading arms.
- **Liquefaction load** for the rail, road or ship options: 8,200 tonnes a day at 100–125 kWh/t is roughly 35–40 MW of continuous electrical demand across the capture sites. A pipeline also needs compression at source, so the net penalty of liquefaction over a pipeline is smaller than the gross figure; no published source quantifies the difference for a case like this.

What the cost studies conclude

The authoritative comparisons are consistent. The Zero Emissions Platform's 2011 study, still the standard European reference, gives for a 2.5 Mtpa system over 180 km an onshore pipeline cost of €5.4 per tonne against ship transport of €8.2 per tonne plus €5.3 for liquefaction — it did not analyse rail or road at all. Its summary of the physics is that "pipeline costs are roughly proportional to distance, while shipping costs are only marginally influenced by distance" [12]. The study for BEIS by Element Energy (2018) found that shipping beats a pipeline above 200 km only at 0.5 Mtpa; "for a high flow rate of 5 Mtpa, shipping is only cheaper than pipeline transport for distances above 500km" [11]. The IEAGHG found ship cheaper than an onshore pipeline only "for distances greater than about 1500 km" [1]. The IPCC's Special Report says of rail and road tankers that "it is unlikely that they be considered attractive options for large-scale carbon dioxide capture and storage projects" [3]. The IEA's summary is that "pipelines are the cheapest way of transporting CO_2 in large quantities onshore"; ship "can be the cheapest option for long-distance transport of small volumes of CO_2 (up to around 2 Mt/year)"; and "for short distances and small volumes CO_2 can also be transported by truck or rail, albeit at higher cost per tonne" [17]. The Global CCS Institute, an industry body, puts rail and truck at "around twice as expensive as shipping or pipelines" and records "no large-scale systems in place" for rail [18]. The peer-reviewed US cost models give the crossover: at 200 km, rail is the lower-cost option "below about 0.3 Mt/yr" and a pipeline above about 1 Mt/yr [19]; a second study finds rail "could be a competitive cost option for volumes under 2 $MtCO_2$/yr" on US freight rates [6]. The one study that modelled this cluster is the BEIS study of capture at dispersed industrial sites (2020), whose "Group 3 (Peak District)" comprised Hope, Tunstead cement and lime, and the Buxton and Hindlow lime works — about 2.2 Mtpa — and which costed transport by "40 km local pipeline" and "140 km transmission pipeline to Liverpool" at £15 per tonne, by rail at £33 and by road at £36, with £12 per tonne more from terminal to store [37]. **At 3 Mtpa over 200 km, every source consulted has the pipeline as the lowest-cost mode.**

Two qualifications matter for the options in Section 10. The cost gap is material but not enormous — on the BEIS figures (2018 prices, 2.2 Mtpa, to Liverpool), rail rather than pipeline adds about £18 per tonne, which if it held at 3 Mtpa would be some £55 million a year *(derived)*, against which a pipeline's capital cost, land-take and consenting risk sit on the other side of the ledger; and the sources compare modes for delivery of the whole tonnage to a store. For a re-use option (Section 10), the tonnage is smaller, the destinations are many, and rail and road are not the expensive alternative but the established mode — in the European merchant trade of some 3 Mtpa "most of the CO_2 is transported by truck or train over land" [2]. The rolling stock and terminals that a re-use option needs are ordinary industrial assets with lead times of about two years [13]; their absence today is a cost to be included in the comparison, not a ground for excluding the option from it.

What the per-tonne figures contain: capital, operating cost and utilisation

The per-tonne figures above are levelised costs — capital expenditure spread over an assumed life, plus operating cost, divided by the tonnes carried — so they do amortise the initial investment. What they assume in doing so matters more than the headline, because the two modes have opposite cost structures. The Zero Emissions Platform states it directly: "pipeline costs consist mainly (normally more than 90%) of CAPEX, while shipping costs are less CAPEX-intense (normally less than 50% of total annual costs)"; its figures are "CAPEX annualised at 8% interest rate and 40 years lifetime" on the assumption of "100% utilisation of capacity from day one", which it acknowledges is unrealistic, and it finds that "a linear ramp-up from zero to 100% utilisation over 10 years results in a 35%

increase in unit transportation cost" for a pipeline, while "ship transport shows nearly the opposite sensitivity" [12]. **The BEIS study that modelled the Peak group states that its costs "refer to 2018 and are undiscounted" (page 9, footnote 1), and its pipeline cost assumptions (Appendix A4, page 63) are "Discount rate: 0%", "Project lifetime: 20 yr" and "OPEX = 1.0% CAPEX" [37] — that is, the pipeline's capital is spread over twenty years at no financing cost.** The rail and road figures rest on "road and rail fuel consumption" assumptions and the department's 2018 shipping model, and their capital content is not set out. The report contains no stated allowance for utilisation below capacity or for ramp-up. Rail, by contrast, is mostly operating cost: haulage charges, energy for liquefaction, handling and wagon leasing, incurred per tonne moved; its capital — wagons, loading and receiving terminals — is a minority of the cost and, being modular, is procured to match the tonnage.

Two things follow, and Table 11.1 puts numbers to them *(derived; assumptions stated in the notes)*. First, the cost of capital. Re-levelising the BEIS pipeline figure at 8% rather than 0% roughly doubles its capital component, lifting £15 a tonne to about £29; rail's rises less because less of it is capital. Second, utilisation. A pipeline's cost per tonne is almost entirely fixed, so it rises in inverse proportion to the tonnage actually carried; rail's is mostly variable, so it does not. The applicant's pipeline is sized at "up to 6.6 Mtpa" for a cluster emitting about 3 Mtpa — 45% utilisation if only the four sites connect — and the tonnage will in any case ramp up over years as capture plants are commissioned.

Table 11.1 — Sensitivity of levelised transport cost to cost of capital and utilisation (£ per tonne, derived from the BEIS 2020 Peak-group figures)

Case	Pipeline (£15/t published)	Rail (£33/t published)
As published: undiscounted (pipeline at 0%, 20 years); no utilisation adjustment stated	15	33
At 8% cost of capital, full utilisation	c. 29	c. 40–47
At 8%, 75% utilisation	c. 39	c. 44–56
At 8%, 50% utilisation	c. 58	c. 53–74
At 8%, 45% utilisation (6.6 Mtpa pipeline carrying 3 Mtpa)	c. 64	c. 56–80
At 8%, 1 Mtpa through a 6.6 Mtpa pipeline (15%)	c. 190	c. 40–47 (rail sized to 1 Mtpa)

Notes: pipeline taken as 90% capital, 10% operating, both fixed; rail taken as 20–40% capital (wagons, terminals, liquefaction) and the balance variable operating cost; capital annuitised over 20 years at 0% (published) or 8%; utilisation applied to fixed costs only; the terminal-to-store leg (£12/t in BEIS) excluded from both. The rail capital share is an assumption — BEIS does not publish the split — and the range shows its effect.

The table reads as follows. At full utilisation and a commercial cost of capital, the pipeline remains cheaper on any assumption about rail's cost structure. **At the utilisation the applicant's own sizing implies, the two modes are in the same range and the ranking depends on assumptions no published source settles.** And for a partial tranche of the order of a million tonnes — the re-use option in Section 10 — a pipeline built for 6.6 Mtpa is uncompetitive by a wide margin, whereas rail costs roughly what it costs at any scale. That is the economic content of the observation that a pipeline is the right tool only for a large, steady flow: its case rests on the full tonnage arriving and staying. It also bears on risk. A pipeline's capital is sunk before the first tonne moves and is stranded if the store is delayed or refused (Section 13); rail's capital is a fraction of the size, is largely leased, and can be redeployed. None of this reverses the published ranking at full throughput. It does mean that the "twice the cost" figure is an undiscounted figure with no stated utilisation adjustment, and that any comparison presented at examination should be asked to show its discount rate, its utilisation profile and its treatment of the capacity margin.

Emissions, safety and community effects of the alternatives

Moving the CO_2 itself emits CO_2. UK rail freight emits 25.5 g CO_2e per net tonne-km (Office of Rail and Road, 2024–25) [20]; DESNZ uses 26 g for rail and 70 g for a laden lorry [21]. Over 200 km *(derived)* that is about 5 kg per tonne carried by rail (0.5% of the cargo) and 14 kg by road for the loaded leg, 28 kg including the empty return (1.5–3%), before the electricity for liquefaction. Set against a buried pipeline's compression load, these are second-order figures, but they are not nothing.

On safety, no authoritative comparison specific to CO_2 exists across the three modes. The US Government Accountability Office's general finding is that "pipelines are relatively safe when compared with other modes, such as rail and truck, for transporting hazardous goods because pipelines are mostly underground" [22]; a Congressional Research Service review of oil transport concluded that spill statistics matter less than location: "location matters more" [23]. The qualitative difference for CO_2 is that a train of twenty wagons carries about 1,200 tonnes — a tenth of a 20 km pipeline section — but carries it through stations, cuttings, level crossings and towns rather than under fields; the UK rail network recorded five derailments and six collisions with road vehicles at level crossings among 23 potentially high-risk train accidents in 2024–25 [24]. Twelve to fourteen additional freight movements a day on the Hope Valley and Peak Forest lines would also be a noise, level-crossing and capacity matter for every community on the route (Section 12).

What has actually been done

The record of CO_2 transport at scale is as follows:

- **Pipeline** — about 5,500 miles operating in the United States (Section 6); Porthos in the Netherlands and HyNet in the UK under construction; Viking consented (Section 13).
- **Ship** — Northern Lights, Norway, operating since 2024–25 with 7,500 m^3 vessels serving Brevik and other sources; the standard mode for coastal emitters distant from a store [10] [31].
- **Rail** — in the United States about 900,000 tonnes a year moves by rail, mainly food-grade CO_2 and ethanol-plant CO_2 to oil fields, in a fleet of about 1,300 tank cars [6]; a Union Pacific partnership for a Wyoming storage hub is a proposal, not an operating chain [7]. In Europe, the clearest case is Heidelberg Materials' GeZero cement project at Geseke, Germany (700,000 tonnes a year, commissioning 2029), which "will initially use specially developed tank wagons to transport the captured CO_2 by rail" — the company's German-language release makes explicit that this is "until the necessary pipeline infrastructure is available" (translated) [25][26]. DB Cargo's study of rail supply to a Wilhelmshaven terminal is a study [5][15]. The Rotterdam CO2next terminal has run a call for interest in rail delivery for a terminal due in 2031 [27]. A Swiss research pilot moved about 1,000 tonnes in 20-tonne containers by road, rail and ship to Iceland [28]. The UK had a liquid-CO_2 rail traffic (Distillers Company tank wagons) between the 1960s and 1980s, documented only in enthusiast sources [29].
- **Road** — the existing merchant market: the IEAGHG notes that in Europe's roughly 3 Mtpa merchant trade "most of the CO_2 is transported by truck or train over land" [2], in loads of 20–30 tonnes to customers, not to a store.

No operating CCS chain of a million tonnes a year or more anywhere has chosen rail as its permanent primary mode; the one committed case at 0.7 Mtpa describes rail as interim.

The UK policy position

The Government treats road, rail and ship as legitimate modes — it calls them "non-pipeline transport" — but for a defined purpose. Its May 2024 call for evidence states that non-pipeline transport "will allow for the deployment of CCUS in areas where a pipeline is technically and/or commercially unfeasible", noting that "roughly half of the industrial emissions in the UK sit outside industrial clusters" [30]; of 24 non-pipeline projects identified by respondents, seven proposed ship, three road and one rail [13]; the February 2026 consultation positions non-pipeline transport for "dispersed sites located outside of the main CCUS clusters" and records that most respondents cited the cost of the full non-pipeline chain as a barrier [32]; and a pathfinder competition for projects

connecting to Teesside by non-pipeline means opened in April 2026 [33]. Nothing in this policy addresses a three-million-tonne cluster 200 km from a store. Separately, the store operator itself says that MNZ "is uniquely positioned to receive CO_2 transported by pipeline, ship and rail" [34]. It does not say where; the store's existing onshore facilities are the gas terminals at Barrow-in-Furness on the Cumbrian coast, not on the Wirral.

What follows for the examination

The Environmental Statement must describe "the reasonable alternatives … studied by the developer" and "the main reasons for the option chosen" [35]. Natural England has asked for that description to cover "non-piped transportation methods on land and at sea (ship, rail, road)" and alternative stores [36]. On the evidence above, a competent alternatives assessment would show that rail or road carriage of 3 Mtpa over 200 km costs more, uses more energy, and moves the hazard from a buried easement into the communities along the railway or roads. What it should also show — and what the applicant's factsheet does not — is the quantified comparison, the assumptions, and whether a combination (for example, ship from an existing port with rail access rather than a new coastal terminal on the Wirral) was examined and why it was rejected. That is the question to put.

11.3 What is uncertain, contested or not yet disclosed

- **The applicant's alternatives assessment** — its factsheet lists options; the analysis behind it has not been published.
- **Whether the applicant examined rail at all**, and on what assumptions (wagon capacity, liquefaction, terminal location).
- **Costs specific to this project** for any mode — none published.
- **UK liquid-CO_2 rail wagons** — no fleet, specification or operator statement found.
- **The applicant's "400 one-way truck movements"** — apparently loaded trips only.

11.4 Questions the reader may wish to put

To the applicant: Will the Environmental Statement present a quantified comparison of pipeline, rail, road and ship options — cost per tonne, energy use, emissions, safety, and community effects — with the assumptions stated? Was carriage by rail to an existing port with liquid-bulk facilities, and shipping from there to the store, assessed? Does the "400 one-way truck movements" figure include empty returns? Why is the pipeline sized for 6.6 Mtpa when the four sites emit about 3 Mtpa, and does the alternatives assessment use the higher figure?

To Natural England and the Inspectorate: Will the adequacy of the alternatives assessment against the scoping advice be a matter for representations at examination?

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Section 12 — The rail network serving the capture sites: existing flows, capacity and upgrades

12.1 Why this matters locally

Three of the four capture sites sit on one of the busiest freight railways in the country, and the Peak has sent stone to Cheshire by rail for a century and a half. Anyone who knows that will ask whether the railway could carry the CO_2 too. This section describes what the railway actually is — which sites are connected, what runs today, where the trains go, what capacity the routes have, and what upgrades are done, planned or merely proposed — so that the rail question can be put with the facts in hand. The picture is that the railway is real and busy at the Peak end, thin at the Wirral end, and that the historic Peak-to-Northwich limestone flow ended in January 2025.

12.2 What is established

The railway at the capture sites

Hope has had its own branch line from the Hope Valley line since 1929. Freightliner (trading as Heavy Haul Rail) began two five-year contracts with Breedon in July 2025: cement "from Hope Cement Works to distribution sites across the UK, including Dagenham, Theale, Dewsbury and Walsall", with inbound "alternative raw materials … from Llandudno and Drax Power Station into the cement works" [1]. The National Park Authority's 2022 consent for rail importation of raw materials was for 450,000 tonnes a year, seven trains a week [2]. Hope is the only one of the four sites inside the National Park.

Tunstead (cement and lime) is served by the freight-only Great Rocks line from Peak Forest. It is one of the largest rail-connected quarry complexes in the country: Freightliner ran a record 3,600-tonne, 39-wagon "jumbo" aggregates train for Tarmac from Tunstead to London in March 2021 [3]; DB Cargo UK states that Tarmac "transports around nine million tonnes of material by rail across the UK each year" and that one aggregates train can replace "up to 76 HGVs" [4]; a new cement flow to Salford began in 2025 [5]. Trade press reports eight to ten loaded trains a weekday from the sidings [6]. Site-level tonnages are not published.

Cauldon has no operational railway. The Cauldon Lowe branch from Leekbrook Junction was leased by Network Rail in 2009, for 150 years, to Moorland & City Railways, and is now operated by the Churnet Valley Railway for heritage passenger trains [7]; the Stoke–Leek reopening study, which included "the option for a freight link to Cauldon Lowe", was frozen when the Restoring Your Railway programme closed in July 2024 [8]. Whether the works itself retains any siding is not documented. **It is sometimes said locally that all four plants have rail connections; that is not correct for Cauldon.**

The neighbouring quarries not in the consortium are also rail-served: Cemex's Dove Holes runs about 1,500 loaded trains a year and plans a 50% increase [9]; Breedon's Dowlow quarry, on the Hindlow branch from Buxton, is served under the same Freightliner contract [1].

The Peak-to-Cheshire corridor

For 150 years limestone ran by rail from Tunstead to the soda-ash works at Northwich — at its height eight trains a day each way — via Chinley, the Manchester suburbs and the Mid-Cheshire line. The last loaded Tunstead–Lostock train ran on 22 January 2025, when the Lostock plant closed [10]. The route itself remains in freight use: Cemex stone to Warrington (about 200,000 tonnes a year, via Northenden, Knutsford and Hartford Junction, as reported in the trade press) and the new slate-waste flow to Hope both use it [6][11]. So the corridor exists; the flow that defined it does not.

From the Peak to the coast

Peak freight leaves the Great Rocks line at Chinley onto the Hope Valley line (Sheffield–Manchester). The Hope Valley Railway Upgrade — authorised by the Network Rail (Hope Valley Capacity) Order 2018 and completed in April 2024 at a cost of £150 million — built a 1 km passing

loop between Bamford and Hathersage and additional track at Dore to relieve “a longstanding freight train bottleneck” [12][13]. It was designed to add a third fast passenger train an hour while, in the Inspector’s words, “the level of freight provision on the Route would remain the same” at three freight trains every two hours; the Inspector’s report records that there is “no ability for trains to pass each other” on the section between Chinley East Junction and Dore West Junction, and industry reporting notes that “constraints at Sheffield and Stockport currently prevent the introduction of the additional services” [13][14]. Westward from Manchester, the Castlefield corridor through Manchester Piccadilly and Oxford Road has been formally “congested infrastructure” since 2019 [15]; Peak freight to Cheshire avoids it via Northenden and the Mid-Cheshire line, which has no congestion declaration.

At the western end the picture thins. Chester–Ellesmere Port–Helsby carries freight and Ellesmere Port docks list “rail terminal logistics”, but no rail-connected liquid-bulk facility on the Mersey estuary was identified [16]. The north Wirral coast — where the applicant’s coastal compression station would be — has no rail freight facility at all: the Birkenhead dock branch closed in the early 1990s and is being converted into a linear park [17]. The other candidate delivery point is Barrow-in-Furness, where Spirit Energy’s gas terminals for the Morecambe fields stand; the company says MNZ can receive CO_2 “by pipeline, ship or rail” without saying where [18]; the Cumbrian Coast line’s freight capability for that traffic has not been published.

Upgrades: done, planned, proposed

Table 12.1 — Rail schemes bearing on Peak-to-coast freight capacity

Scheme	Status	Freight relevance	Source
Hope Valley Railway Upgrade	Complete, April 2024; £150m	Relieved the Dore freight bottleneck; freight provision held at 3 trains per 2 hours; passenger uplift not yet delivered	[12][13][14]
Transpennine Route Upgrade (Manchester–Leeds)	Under way; £11bn	“Capacity and gauge clearance for up to 15 new intermodal freight paths per day” — east of Manchester, not on the Peak or Cheshire routes	[19]
Northern Powerhouse Rail (Liverpool–Manchester new line)	Development funding £1.1bn (January 2026); Phase 2 delivery “mid-2040s” (NAO)	Passenger capacity; freight benefit indirect and decades away	[20][21]
HS2 Phase 2	Cancelled October 2023	West Coast Main Line freight capacity relief lost; the Rail Freight Group said the line “simply does not have the capacity” for the displaced traffic	[22]
Rail Freight Growth Target	75% growth by 2050 (December 2023); interim 40% by 2040 announced 8 September 2026 with new duties on Great British Railways	National ambition; no route-specific scheme	[23][24]
Network Rail North West & Central plan,	Freight growth of 8.6% in the period; £24.5m	No Peak, Hope Valley or Ellesmere Port	[25]

Scheme	Status	Freight relevance	Source
2024–29	for heavy-axle-weight schemes	scheme listed	
Matlock–Buxton reinstatement (Derby–Manchester)	County study 2004: benefit-cost ratio below one on all options; council motion to advocate reinstatement, May 2026	Study found potential for “between 4 and 10 loaded trains per day” but no strategic freight role intended	[26][27]
Stoke–Leek (with Cauldon Lowe freight link)	Feasibility study frozen July 2024	The only route by which Cauldon could regain rail access	[8]

From freight capacity to CO_2 tonnage

The description above needs turning into the figure that matters: how much CO_2 the railway could feasibly carry from these works, for re-use or for storage. The conversion is simple and its assumptions are stated *(all figures in this subsection are derived)*. A liquid-CO_2 train of 20–25 wagons at 60 tonnes carries 1,200–1,500 tonnes; the Buxton sidings extension of 2019 was built for 26-wagon stone trains, so 25 wagons is within the physical envelope of the Peak’s loading points [31]. One loaded train a day, every day, therefore moves about 0.44–0.55 million tonnes a year; on a six-day working week, about 0.37–0.47 million. Table 12.2 applies that rate to the tonnages in Section 10.

Table 12.2 — Rail capacity required for the CO_2 tranches in Section 10 (derived)

Tranche	Tonnes a year	Loaded trains a day (7-day / 6-day working)	Train movements a day incl. empties	Wagon fleet (1–2 day cycle plus 20% spares)	Comparison
Merchant supply now (imported majority of the market)	0.2–0.5 Mt	0.4–1.1 / 0.4–1.3	1–2	10–55	Less than the variation between a good and a bad week at Tunstead
Re-use, 2030 (Table 10.2)	0.7–1.3 Mt	1.3–3.0 / 1.5–3.5	3–6	40–140	About the increase Cemex plans at Dove Holes alone (a 50% rise on c. 1,500 trains a year ≈ 3 a weekday) [9]
Re-use, 2040 (Table 10.2)	1.8–2.7 Mt	3.3–6.2 / 3.9–7.3	7–12	100–300	Of the order of Tunstead’s present daily despatch
Full throughput to a port for storage	3.0 Mt	5.5–6.8 / 6.5–8.1	11–14	165–330	Roughly doubles the loaded trains now leaving the Peak westbound

The comparison column is the useful one, and it rests on published figures for what the railway already does. Tunstead despatches eight to ten loaded trains on a weekday and ran a single 3,600-tonne train in 2021 [3][6]; Dove Holes runs about 1,500 loaded trains a year and plans a 50% increase [9]; Hope's cement contract and its 450,000-tonne-a-year inbound raw-material consent add several more [1][2]. Taken together the Peak's quarries and works already send of the order of fifteen to twenty loaded trains a day onto the Hope Valley and Peak Forest lines, of which a substantial share heads west through Chinley towards Manchester and Cheshire *(derived from the trade-press and planning figures above; no consolidated count is published)*. Against that base, the merchant tranche is one train a day; the 2030 re-use tranche is two or three, an increment the same operators are already planning for their stone; the 2040 tranche is comparable to one large quarry's output; and full storage would need six to eight loaded trains a day, roughly doubling the westbound flow. The wagon fleets are small by rail standards — DB Cargo's German plan is about 200 wagons for four million tonnes a year [Section 11] — and are the kind of asset the freight operators procure on two-year lead times.

Three things this arithmetic does not resolve. First, **paths**: the published provision on the Hope Valley line east of Chinley is three freight trains every two hours; no equivalent headroom figure is published for the sections west of Chinley through New Mills, Hazel Grove and Stockport that Peak-to-Cheshire trains use, and those sections are shared with a dense passenger service. One to three additional daily paths is the kind of increment that is routinely accommodated; six to eight, in each direction, is a capacity question that only Network Rail can answer and that no one has asked. Second, **Cauldon**: it has no railway, so its share — of the order of a fifth to a quarter of the cluster's CO_2 on the capacity figures in Table 10.1 — would go by road or not at all; a partial re-use option could simply leave Cauldon uncaptured. Third, **the far end**: a re-use tranche goes to dispersed customers via the industrial-gas companies' depots and by road for the last leg, which the merchant trade does today; a storage tranche needs a port with liquefied-CO_2 storage and a jetty, which does not exist on the Mersey or at Barrow, and a ship-to-store chain, which MNZ has said it could accept but has not designed. **In short: the railway can carry the re-use tranches with the ordinary increments of a busy freight route; carrying the whole throughput to a store is possible on paper but would be the largest single new flow on the line and has not been studied.**

Constraints on a CO_2-by-rail operation

Seven constraints follow from the record, whatever the economics (Section 11):

1. **Paths.** Freight provision on the Hope Valley line is three trains every two hours, shared with existing stone, cement and other flows; the upgrade protected that provision rather than expanding it [13].
2. **Physical railway.** Trade-press reporting from the footplate describes the Great Rocks line climbing at 1 in 90 out of Peak Forest, limited to 60 mph, with a Dove Holes tunnel that floods and closes [6]; Network Rail attributes freight cancellations in the Peak Forest area to weather [28].
3. **Wagons.** No UK liquid-CO_2 rail tank wagon fleet exists; DESNZ's respondents put the lead time for rail cars at two years [29].
4. **Terminals.** A liquefaction plant, buffer storage and loading facility at each site; a receiving terminal, storage and either a ship berth or a pipeline connection at the coast — none of which exists at either end.
5. **Cauldon** has no railway.
6. **The coast.** No rail freight facility on the north Wirral; the store operator has said MNZ can receive CO_2 by rail without saying where, and its existing onshore facilities are at Barrow.
7. **Timing.** The pipeline programme is construction from 2029 and operation from 2032 (the applicant's January 2026 programme; its website also gives "From 2030"); no rail enhancement of any relevance is due before the 2030s, and the only local reopening proposals are frozen or unfunded.

None of this says the railway is irrelevant. It says that a rail alternative would rest on the existing Hope Valley, Peak Forest and Mid-Cheshire infrastructure plus new terminals, wagons and a coastal transfer point, at a scale of six to seven loaded trains a day with as many empties, and that no scheme in the pipeline of rail investment changes that picture in the project's timescale.

12.3 What is uncertain, contested or not yet disclosed

- **Site-level rail tonnages** for Tunstead and Hope, and current train frequencies — trade press only.
- **Cauldon's siding status** and the last freight on the Cauldon Lowe branch.
- **Rail facilities at Ellesmere Port and Stanlow** and the Cumbrian Coast line's freight capability.
- **Network Rail's view** — its scoping response to the Inspectorate concerned protection of its assets at crossings, not the transport alternative [30]; no statement from Network Rail, the Department for Transport or the freight operators on CO_2 by rail was found.
- **Whether the applicant consulted Network Rail or a freight operator** on a rail option.
- **Path headroom west of Chinley** — the figure on which the full-storage rail case turns; not published.

12.4 Questions the reader may wish to put

To the applicant: Did the applicant consult Network Rail or any freight operator on carriage of CO_2 by rail from Hope and Tunstead, and will the correspondence be published? What loading, liquefaction and terminal facilities would a rail option have required, and where?

To Network Rail and the freight operators: What freight path capacity exists on the Hope Valley line and the Mid-Cheshire line for additional daily flows? Is any liquid-CO_2 wagon fleet in development for the UK?

To Derbyshire and Cheshire councils: Do the county transport plans and the Peak District National Park's minerals policies contain any position on additional freight movements on the Hope Valley and Peak Forest lines?

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Section 13 — Storage: where the CO_2 would go, who controls it, and what "decommissioning" can mean

13.1 Why this matters locally

The pipeline exists to feed a store, and the store is not part of the application. It is a separate project, under a separate licence, from a separate company, consented by different bodies, and it is not yet at the stage of applying for the permit it needs. If it slips, the pipeline slips with it; if it is refused, the pipeline has nowhere to go. That dependency is one reason the Inspectorate has required the applicant to describe the offshore elements in its Environmental Statement even though it is not consenting them. The store also carries a question that people ask instinctively and rarely get answered: can it be undone? The legal answer is that the wells and platforms can be decommissioned but the CO_2 cannot practicably be recovered; the store is designed to be permanent, and after a post-closure monitoring period — twenty years unless the regulator is satisfied sooner that the CO_2 is contained — responsibility for it passes to the state. This section sets out the store, the regime, the decommissioning question, the long-term liability, and the cross-chain risk.

13.2 What is established

The store

Morecambe Net Zero is Spirit Energy's proposal to inject CO_2 into the depleted South Morecambe and North Morecambe gas fields in the East Irish Sea. South Morecambe has produced since 1985 through seven platforms and 36 development wells; North Morecambe since 1994 through one platform and 10 wells; the small Rhyl field is tied back to North Morecambe by two subsea wells; all are connected by pipeline to the Barrow gas terminals in Cumbria [1]. Spirit describes a store "capable of storing a gigaton of carbon dioxide" that "will be transported to the site by pipeline, ship or rail" [2]. Its statements of injection rate have moved: "initially store above 5MTPA of CO_2 … scaling in time to 25MTPA" (May 2023); "could begin storing around four million tonnes of CO_2 in the fields every year from 2030" (January 2025); and "three million tonnes of CO_2 per year" of transport capacity for Peak Cluster (June 2026) [3][4][5]. Gas production is to continue to the end of the decade [4], to "ensure a smooth transition from gas production to carbon storage" [6].

The licence is North Sea Transition Authority carbon storage licence CS010, granted to Spirit Energy Production UK Limited with a start date of 1 July 2023 in the NSTA's first carbon storage licensing round [7][8]. It is an appraisal licence: the appraisal term runs four years and six months, to 31 December 2027, and its work programme requires a storage permit application six months before that — by about the end of June 2027 [7]. Spirit reported in June 2026 that the project had "entered the 'Assess Phase'" of the licence [5]. No storage permit has been granted; Natural England noted at scoping that "at present, there is only one location which has … been awarded a storage permit by the North Sea Transition Authority (NSTA) in the Irish Sea, which is the HyNet Carbon Dioxide Transportation and Storage Project - Offshore" [9]. Whether Spirit holds the Crown Estate agreement for lease that storage also requires is not published [10].

The store is not part of the Development Consent Order. The Inspectorate's transboundary screening records that the order "does not include works beyond Mean Low Water Springs"; its meeting note records that "the offshore elements will fall to be considered under a different consenting regime"; and the Marine Management Organisation's scoping response notes that the applicant proposes to seek the offshore consents from OPRED [11][12][13]. **The offshore pipeline and store therefore need an NSTA storage permit, environmental consents from the Offshore Petroleum Regulator for Environment and Decommissioning, a Crown Estate lease, and an economic licence under the Energy Act 2023 — none of which has been granted.** The Inspectorate has nonetheless directed that "in order to understand the proposed development in its entirety and to enable a robust cumulative assessment, the ES should provide a description of the offshore elements which would connect to the proposed development and explain how the consents would interact" [14].

Neither Peak Cluster nor MNZ is in the Government's Track-1 or Track-2 cluster programmes (HyNet and the East Coast Cluster; Acorn and Viking) [15]. The National Wealth Fund invested £28.6 million in Peak Cluster Limited in July 2025 alongside £31 million of private co-investment, recording a pipeline capacity of "up to 6.6 Mtpa" [16]; the applicant says that development funding runs "through to Final Investment Decision (FID), if planning consent is granted" [35]. The relationship between the pipeline and the store rests on a memorandum of understanding signed in September 2023 [12].

The storage regime

Storage of CO_2 under the seabed is prohibited except under licence (Energy Act 2008, section 17) [17]. The Storage of Carbon Dioxide (Licensing etc.) Regulations 2010 (SI 2010/2221), which transposed Directive 2009/31/EC and remain in force as domestic law, govern the permit: the NSTA may grant a storage permit only if satisfied that there is "no significant risk of leakage or of harm to the environment or human health" and that the operator is "technically competent … financially sound" [18]; the permit must state "the total quantity of CO_2 authorised to be stored", "the reservoir pressure limits", "the maximum injection rates and pressures", the monitoring plan, "the corrective measures plan", "the provisional post-closure plan" and the financial security [18]. A provisional post-closure plan must be drawn up before the permit is applied for [18]. After closure the operator must continue to "monitor the storage site", report, and "take corrective measures" until the licence is terminated; where "a significant irregularity or leakage has been detected" the authority may take corrective measures itself and "the costs of doing so are to be paid by the operator" [18]. Financial security must cover "all obligations of the operator arising under the storage permit, including those arising in respect of the closure of the storage site and during the period between such closure and the termination of the licence", must be "in force before the commencement of injection", and "remains in force until the licence is terminated" [18]. Third-party access to storage sites and CO_2 pipelines is governed by the Storage of Carbon Dioxide (Access to Infrastructure) Regulations 2011 (SI 2011/2305), under which an applicant refused access by negotiation may apply to the authority for a notice securing it [19].

Closure, transfer and what "decommissioning" can mean

The end-state of the regime is not decommissioning in the ordinary sense but transfer. The Storage of Carbon Dioxide (Termination of Licences) Regulations 2011 (SI 2011/1483) set the conditions [20]:

- **A minimum post-closure period.** "The minimum period must be no less than twenty years from the date of the closure of the storage site" (regulation 7(2)), although regulation 7(3) allows the authority to set a shorter period where it is satisfied that the containment condition below is met.
- **Evidence of permanence.** The licence may be terminated only if "all available evidence indicates that the stored CO_2 will be completely and permanently contained" (regulation 8(a)), the minimum period has elapsed, "the storage site has been sealed and the injection facilities have been removed", and "the abandonment programme has been carried out".
- **A financial contribution.** Before transfer the operator must pay a contribution that the authority "considers will be sufficient to cover the expected post-transfer costs" (regulation 10). The Directive from which the regime derives specified "at least the anticipated cost of monitoring for a period of 30 years" [21]; the UK regulations contain no fixed period, but require the authority to take into account the factors in Article 20(1) of the Directive, of which that is one (regulation 10(2)).
- **Transfer to the state.** On termination, the operator's obligations for monitoring, corrective measures, the "surrender of allowances in the event of leakages" and environmental remediation, and "any leakage liabilities incurred by the licence holder prior to termination", transfer to the NSTA (regulations 14 and 15). The authority may recover costs from the former operator only "to the extent that such costs arise due to fault on the part of the operator", including "negligence, deceit, or a failure to exercise due diligence" (regulation 16).

What can be decommissioned are the installations and the wells. Section 30 of the Energy Act 2008 applies Part 4 of the Petroleum Act 1998 — the offshore abandonment-programme regime — to carbon storage installations, and the termination regulations require the injection facilities removed and the abandonment programme carried out before transfer [17][20]. **What cannot be**

decommissioned is the CO_2. No statutory provision contemplates its recovery; the regime's premise is permanent containment. Technically, the IPCC's assessment is that four trapping mechanisms operate — structural trapping under the cap rock, residual trapping in pore spaces, dissolution into formation water and mineralisation — and that "over time, the physical process of residual CO_2 trapping and geochemical processes of solubility trapping and mineral trapping increase", so that the fraction retained is "very likely to exceed 99% over 100 years" and "likely to exceed 99% over 1000 years" for well-selected and managed sites [22]. Remediation of a leak is possible — the IPCC lists interception of CO_2 migrating into shallow aquifers — but that is local corrective action, not reversal of the store. The recognised leakage pathway in a depleted gas field is the wells: the IPCC lists "leaking injection wells, abandoned wells, leakage across faults and ineffective confining layers" as the risks and warns that "injection well failures or leakage up abandoned wells could create a sudden and rapid release of CO_2" [22]; the IEAGHG's 2025 review rates leakage through geological features "negligible for storage in depleted fields" but well-integrity issues of "moderate probability in depleted fields", adding that "well mitigation and remediation technologies are well established" [23]. The two Morecambe fields have 46 development wells, and Rhyl two more, before exploration and appraisal wells are counted [1]. Each of them will need to be assessed, and where necessary re-abandoned to CO_2-resistant standards, as part of the permit.

Leakage and the emissions trading scheme

Capture, transport by pipeline and geological storage of CO_2 are activities within the UK Emissions Trading Scheme [24]. If CO_2 leaks from a storage complex, the leaked quantity is treated as an emission which must be quantified and covered by allowances; the operator may cease counting it "only when corrective measures … have been taken and emissions or release into the water column from that leakage can no longer be detected" [25]; after transfer that surrender obligation passes to the NSTA [20]. Economic regulation of CO_2 transport and storage is by licence under Part 1 of the Energy Act 2023, with Ofgem as economic regulator; only the East Coast and Liverpool Bay (HyNet) operators hold such licences, and no licence, proposal or application for MNZ or Peak Cluster has been published [26][27].

The long-term liability

The National Audit Office's 2024 review of the CCUS programme describes Government as acting in effect as insurer of last resort against significant leaks from storage sites, and notes the lack of real-world experience of storage at this scale [28]. The Public Accounts Committee, in February 2025, put figures on it: risks "that the private sector cannot take on … must therefore be assumed by government. These include the risk of undersea storage sites leaking"; contingent liabilities with "a maximum value of £34.4 billion and a 'reasonable worst-case' value of £14.3 billion"; and around three-quarters of the programme's almost £22 billion of support to come "from levies on consumers" [29]. It also noted that in Norway "the stored carbon dioxide has not behaved as expected" and recommended annual reappraisal in the light of "up-to-date scientific understanding" [29]. Those figures are for the Track-1 clusters; Peak Cluster and MNZ have no such support and no such Government liability at present, which is itself a point of uncertainty about how a store outside the programme will be underwritten.

Cross-chain risk

The dependencies run in both directions, and their timetables are close. The store's appraisal licence expires at the end of 2027 unless a permit application is made by mid-2027 [7]; the pipeline application is anticipated in September 2027 [34]; Peak Cluster's final investment decision follows consent [35]; operation is planned for 2032 [5]. **No published statement from either company addresses what happens to the pipeline if the permit is refused or delayed, or to the store if the pipeline is [30].** The nearest alternative store is HyNet's Liverpool Bay complex (Hamilton, Hamilton North and Lennox fields), whose environmental consent describes it as "estimated to capture a total of 109 Mt of CO_2 over a period of 25 years" and served by a pipeline from Ince through Flint to Point of Ayr whose route "does not traverse the Wirral peninsula", with a capacity of about 4.5 Mtpa [31][32]. Peak Cluster is not among the projects the Government selected for negotiation in the HyNet expansion round of August 2025 [33]; access would depend on physical spare capacity, the third-party access regulations, and the Government-led user-selection process.

Whether MNZ will also receive CO_2 by ship at Barrow from other emitters, which would affect both its economics and its capacity for Peak Cluster, is stated only in general terms [2].

13.3 What is uncertain, contested or not yet disclosed

- **The storage permit** — not yet applied for; the site characterisation, well-integrity assessment and monitoring plan are unpublished.
- **The injection rate and capacity actually to be permitted**, given the drift in Spirit's public figures.
- **The Crown Estate lease**, the Energy Act 2023 economic licence, and the business-model or other support on which the store's finances depend.
- **The number and condition of legacy wells** — 46 development wells in the Morecambe fields (plus two at Rhyl) are documented; exploration and appraisal wells are not.
- **The contingency** if either half of the chain fails to obtain its consents on the other's timetable.
- **Ship import at Barrow** — mentioned generically; no terminal or customer announced.

13.4 Questions the reader may wish to put

To the applicant and to Spirit Energy: What is the storage permit timetable, and what happens to the pipeline application if the permit is delayed beyond 2027 or refused? What injection rate and total capacity will the permit application seek? How many wells penetrate the storage complex, how many have been assessed for CO_2 integrity, and how many will be re-abandoned? What financial security will be provided, and by whom, for the closure and post-closure period? Is ship import at Barrow part of the MNZ business case, and with what effect on capacity for Peak Cluster?

To the NSTA: Will the storage permit application and its supporting characterisation be published and open to representations? What minimum post-closure period will be set?

To DESNZ: Outside Track-1 and Track-2, who underwrites the long-term liability for a store such as MNZ, and on what terms?

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Part D — Policy, funding and economics

Contents of this Part. Section 14 — UK CCUS policy and where Peak Cluster sits in it. Section 15 — Project cost, funding and who pays. Section 16 — Policy-level questions (labelled as such).

Conventions used in this Part. “The applicant” means Peak Cluster Limited. “DESNZ” or “the Department” means the Department for Energy Security and Net Zero. “CCUS” is carbon capture, usage and storage, the Government’s term; “CCS” is used where usage is not in point. Government publications, Hansard, legislation and the reports of the National Audit Office, the Public Accounts Committee and the Climate Change Committee are primary sources; company and trade-body statements are labelled; press is used only for events and prices. Figures marked *(derived)* are calculated for this report from stated assumptions. **Key findings are set in bold**; the emphasis marks importance, not certainty. Section 16 is different in kind from the rest of the report: it sets out arguments made in public debate, on both sides, and is labelled as debate throughout.

Section 14 — UK CCUS policy and where Peak Cluster sits in it

14.1 Why this matters locally

A councillor will be told, by supporters and opponents alike, that this pipeline is “Government policy” or that it is “not a Government project”. Both are said, and both are partly true. The national policy statement that will govern the decision treats carbon-capture pipelines as critical national priority infrastructure and settles the question of need in their favour (Part E, Section 17). The Government’s programme for paying for such infrastructure — the cluster-sequencing process, the capture contracts and the regulated transport-and-storage model — does not include this project, and the Minister has said so to Parliament. Whether the pipeline can be built therefore depends on things outside the planning system: whether the Government extends its programme, whether the producers can pay for transport and storage themselves, and what the carbon price does. This section sets out the policy landscape as it stands in September 2026 — what the Government has built, for whom, and on what terms — so that the reader can see where this project sits in it and what would have to change for it to be funded.

14.2 What is established

The Government’s programme

The Government’s stated approach is in the CCUS Vision of December 2023: a target to “store 20 to 30 megatonnes per annum (Mtpa) of carbon dioxide (CO_2) by 2030”, rising to “at least 50 megatonnes per annum” by the mid-2030s; capture contracts “to be allocated through a more competitive process”, with “regular scheduled allocation rounds, with the initial round expected around 2027”; “non-pipeline transport (NPT)” — “road, rail and shipping” — “linking emission sources with permanent geological storage”; and “a process for applications for new economic licences for transport and storage” that “may need to be in place from 2025/6” [1]. The Public Accounts Committee recorded in February 2025 that the Department had, in December 2024, “stated that its ambition to capture and store 20 to 30 million tonnes per year of CO_2 by 2030 is no longer achievable” [2]. **No competitive allocation round for capture contracts has been launched at the date of this briefing, and no process for new economic licences outside the sequenced clusters has been published.**

Cluster sequencing: who is in the programme

The programme works by selecting clusters — a transport-and-storage system and the capture projects that connect to it — and negotiating support for each. The Track-1 clusters, “HyNet and East Coast Clusters”, were confirmed in October 2021 “for the mid-2020s”, with the Scottish Cluster in reserve [3]. On 4 October 2024 the Government announced “up to £21.7 billion of funding available, over 25 years” for CCUS and hydrogen, “to be allocated between these 2 clusters” [4]. The East Coast Cluster’s transport and storage company reached financial close on 10 December 2024, with the first economic licence under the new regime [5]; HyNet’s did so on 24 April 2025, when Eni “reached financial close with the UK Government’s Department of Energy Security and Net Zero (DESNZ) for the Liverpool Bay CCS project”, receiving its economic licence and three storage permits together [6][7]. The first capture contracts followed on 25 September 2025 — for Heidelberg’s Padeswood cement works in Flintshire (800,000 tonnes a year) and the Protos energy-from-waste plant — under a Spending Review settlement of “£9.4 billion over this Parliament” [8]. **Padeswood is the only cement works in the United Kingdom with a Government capture contract; it is a Track-1 project connecting to HyNet’s pipeline in Flintshire.**

The Track-2 clusters, Acorn (Scotland) and Viking (Humber), were identified in July 2023 as “best placed to deliver our objectives for Track-2, at this stage, subject to final decisions, due diligence, consenting, subsidy control, affordability and value for money assessments” [9]. In June 2025 the Government “backed UK carbon capture industries with £9.4 billion following the Spending Review”, met “the request for development funding of around £200 million” for Acorn, and said both Track-2 projects would “move forward with their proposals with the aim of reaching financial closure later this Parliament” [10]. Expansion of the Track-1 clusters is under way by separate selection rounds: the

HyNet expansion negotiation list of August 2025 names six projects, none of them a cement or lime works, though one — a hydrogen plant — is co-developed by Progressive Energy, the applicant's original developer [11]; the East Coast Cluster's 2026 selection round is confined to projects that "can connect to the ECC Teesside onshore network" [12], and its non-pipeline-transport "pathfinder" likewise [13].

Peak Cluster and Morecambe Net Zero are in none of these processes. The Minister's written answer of 17 July 2026 is the authoritative statement: "The Peak Cluster project is being developed privately by Peak Cluster Ltd, alongside its industry partners. The project has not been identified as one of the four Carbon Capture, Usage and Storage (CCUS) clusters for support through the government's CCUS Cluster Sequencing process and is not in receipt of funding from the Department. The Government recognises that CCUS can play an important role in decarbonising hard-to-abate sectors such as cement and lime. However, no decision has been taken on future government support for the Peak Cluster, and further decisions on future CCUS deployment will be taken in due course" [14]. Earlier answers state that the Government "has not committed any funding for the Peak Cluster project, including for the capture facilities and the offshore storage" [15], that the Department "does not hold" cost information [16], and that it "has not prepared" a cost-benefit analysis because it "has not committed any funding" [17]. At oral questions on 7 July 2026 a minister said: "My understanding is that the Peak Cluster needs to develop the project itself; it is not a Government-backed project" [18]. The National Wealth Fund's own factsheet describes a project facing "substantial investment barriers and policy uncertainty in the CCUS sector" [19].

The business models, and what they require

The programme pays for CCUS in two ways, and understanding both explains what "not in the programme" means for this project.

Capture contracts. An Industrial Carbon Capture contract is a private-law contract of "up to 15-years (a 10-year initial period with possible annual extensions for up to a further 5 years)" with the Low Carbon Contracts Company, under which the emitter receives "revenue support through a payment per tonne of captured CO_2", intended "to cover operational expenses (Opex); Transport and Storage (T&S) charges; and repayment of, and a rate of return on, capital investment (Capex)"; the support is "funded by the Exchequer" [20]. The payment is a difference payment between a strike price and a reference price linked to the carbon price [21]. As a condition of extending the contract beyond its initial term the emitter must "demonstrate that it remains connected to a T&S Network" [21]. Contracts have so far been allocated only through cluster-specific selection rounds whose eligibility rules require connection to a named network [8][11][12].

Transport and storage. The transport-and-storage company is regulated under Part 1 of the Energy Act 2023: it must hold an economic licence; Ofgem is "the economic regulator", with objectives to "protect the interests of current and future transport and storage network users" and to "promote the efficient and economic development and operation of transport and storage networks"; and during the Act's "interim period" licences are granted by the Secretary of State rather than Ofgem [22][23][24]. The licence sets an "allowed revenue" [24]; "users of the T&S Network will pay T&SCo Charges" [25]; and for the Track-1 clusters the Government provides a "Government Support Package" — a Revenue Support Agreement covering shortfalls in allowed revenue, a Supplemental Compensation Agreement and a Discontinuation Agreement — which the CCUS Vision describes as "bespoke contractual arrangements currently being offered to the Track-1 clusters" [1][26]. The Competition and Markets Authority's subsidy assessment of that package put the base-case subsidy at "£1.06 billion" with a "theoretical maximum exposure scenario (£11.5 billion)" over an expected 25-year operating period [26]. The Public Accounts Committee's summary of who pays: "A quarter of this financial support will come from the Exchequer, but three quarters will come from levies on consumers" [2].

The consequence for this project. Nothing in the Energy Act confines economic licences to sequenced clusters, and the Vision contemplates new licences from 2025/6 [1][22]. But the Government support that makes a transport-and-storage company financeable, and the capture contracts that pay the users' charges, have been offered only to the sequenced clusters. **Without a capture contract, each producer would have to pay the pipeline's charges out of its own avoided carbon cost; without a Government support package, the pipeline's owners would**

carry the volume and revenue risk themselves. The applicant's material does not say which model it expects; the National Wealth Fund's investment is described as taking the project "through to a Final Investment Decision (FID) as early as 2028", at which point "additional investment" will be sought [39][27]. Section 15 deals with the money; Section 11 in Part C with the cost per tonne.

The planning policy, and why funding status does not affect it

The national policy statement EN-1 (2025 revision, in force 6 January 2026) establishes need for CCS infrastructure in terms that do not depend on the Government's funding programme: "There is an urgent need for new carbon capture and storage (CCS) infrastructure"; "CCS technologies, pipelines and storage infrastructure are considered to be CNP infrastructure"; and "the Secretary of State is not required to consider separately the specific contribution of any individual project to satisfying the need" [28]. No technology-specific statement applies to CO_2 pipelines; EN-1 "alone will have effect" [28]. **At examination, the fact that the Government has not funded the project does not reduce the weight of the need case; what it affects is the compulsory acquisition test, where the applicant must show funding for the land it seeks to acquire (Section 15), and the practical question of whether the pipeline will be built.** Part E, Sections 17 and 21, sets out the tests.

Scrutiny of the programme

The National Audit Office reported in July 2024 that "there are no CCUS facilities operating at commercial scale in the UK"; that the Government "has so far spent £630 million on its CCUS programme"; that "higher than expected construction costs may mean that carbon capture projects may become unviable without additional revenue support from the government or consumers"; and that "uncertainty remains around the funding available for future stages of the CCUS programme" [29]. The Public Accounts Committee concluded in February 2025 that "the Department is taking a high-risk approach by backing first-of-a-kind, unproven technologies with large amounts of taxpayer and consumer funding … almost £22 billion over 25 years for five Track 1 projects", with contingent liabilities "estimated to be worth up to £34 billion", and recommended that the programme "focuses on sectors where there are no viable alternatives to decarbonise, such as cement and lime production" [2]. The Climate Change Committee's Seventh Carbon Budget advice (February 2025) states that "by 2040, our Balanced Pathway sees CCS used in industrial subsectors with process emissions for which alternatives are unlikely to be available. This results in CCS being deployed in the chemicals and cement and lime industries", and that "achieving the CCS trajectory in our industry pathway relies on the establishment of CO_2 storage and rapid construction of pipelines to connect sites" [30]. The Industrial Decarbonisation Strategy of 2021 had already identified the difficulty for these works: "Cement plants located far away from CO_2 storage sites. e.g. Rugby cement: 150km from Humberside, Hope Cement: 70 to 100km, through the Peak District" [31].

The independent scrutiny bodies agree that cement and lime are the sectors in which CCS is hardest to avoid, and that the programme's costs and risks fall on taxpayers and consumers; none of them has assessed this project, because the Government has not.

Non-pipeline transport

Government policy now contemplates transport other than by pipeline. The Department's call for evidence concluded in November 2024 that respondents had made it "overwhelmingly clear that NPT is a necessity for the successful expansion of CCUS across the UK" [32]; its consultation of February 2026 — which defines NPT as transport "via truck, rail, ship, or barge" — proposed that "NPT costs are paid through the capture business models" through an "NPT fee" in capture contracts, describing NPT as important "for dispersed sites located outside of the main CCUS clusters" [33]; and the East Coast Cluster's NPT pathfinder round opened in April 2026 for sites connecting to Teesside [13]. The UK ETS Authority has consulted on allowing emitters who use non-pipeline transport to deduct stored CO_2 from their reported emissions, which the rules currently allow only for CO_2 "transferred from their installation via pipeline" to a storage installation [34]. No Government response to the 2026 consultation had been published at the date of this briefing. **The Government's own policy treats rail, road and ship as legitimate routes to storage for "dispersed sites", and is building the contractual and ETS machinery for them; Part C, Sections 11 and 12, compares the modes for these works.**

Carbon pricing

The economics of any capture project turn on the carbon price and on who pays it. UK ETS allowances traded at about £58 a tonne in August 2026 [35]. Cement and lime installations receive free allocations that shelter most of their emissions from that price; the UK ETS Authority decided in November 2025 on "a gradual phase out of free allocations for sectors covered by the UK Carbon Border Adjustment Mechanism beginning in 2027, with an indicative phase out trajectory of 9 years" [36]. The UK CBAM, imposed by Part 5 of the Finance Act 2026 with rates set by regulations made in July 2026, applies a carbon charge from 1 January 2027 to imports of "aluminium, cement, fertiliser, hydrogen and iron & steel" — cement, but not lime, is a CBAM sector, so the 2027 phase-out applies on its face to the three cement works and the position of the lime works is not stated [36][37]. Under the ETS rules, CO_2 that is captured counts as not emitted only when it is sent "for the purpose of long-term geological storage"; captured CO_2 that is used is not deductible [34]. **As free allocation is withdrawn from the cement sector over the 2030s the producers' exposure to the carbon price rises towards the full tonnage of the cement works' emissions, which is the commercial pressure behind the project; the ETS credit for storage but not for use is the regulatory reason the applicant's case is framed around storage** (Part C, Section 10). The Mineral Products Association states that "cement imports already account for 30 per cent of the UK market (3.6 million tonnes)" and that UK cement production in 2024 was at "its lowest level since 1950", with imports 32% of the market [38] — trade-body figures, but consistent with the Government's rationale for the CBAM.

14.3 What is uncertain, contested or not yet disclosed

- **Whether, when and how the Government will extend its programme** to projects outside the sequenced clusters — "further decisions … will be taken in due course".
- **What business model the applicant is planning on**, and whether it has applied for or discussed an economic licence, a capture contract or a support package.
- **The Government's response to the 2026 non-pipeline-transport consultation** and the UK ETS decision on NPT deductions.
- **The carbon price trajectory and the pace of free-allocation withdrawal** for cement and lime after 2027.
- **Whether the Padeswood contract's terms will be published**, as the only cement precedent.

14.4 Questions the reader may wish to put

To the applicant: On what business model does the applicant expect the pipeline to be paid for — Government capture contracts, a regulated transport-and-storage licence with a support package, or charges paid by the producers from their own resources? Has it applied for, or been invited into, any Government selection process? What carbon price does its case assume?

To the Member of Parliament: Will the Department say whether a further allocation round or a process for new economic licences will be opened before the application is decided, and whether this project would be eligible?

To the host authority: Will the local impact report record the funding position and its bearing on the compulsory acquisition case?

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Section 15 — Project cost, funding and who pays

15.1 Why this matters locally

The cost of the pipeline matters to a parish for three reasons. First, the compulsory acquisition of land and rights can be authorised only if the applicant shows it can pay for them, so the funding position is a matter the examination must test. Second, the source of the money determines who ultimately pays — the Exchequer, energy consumers through levies, or buyers of cement and lime — and therefore what the "benefit" side of the planning balance actually consists of. Third, a linear project that is consented but not funded, or funded but abandoned part-built, leaves land under easement, orders on the register and a route safeguarded against other uses; the risk of that outcome is a legitimate matter for a council to raise. This section collects what is known about the cost, the funding and the risks, and marks clearly where the public record is silent.

15.2 What is established

What the project is said to cost

No cost for the onshore pipeline has been published. The figure in circulation — "around £5 billion" — is the applicant's and Spirit Energy's combined figure for both projects: the applicant's overview says "with MNZ, attracting around £5 billion of investment in the UK", and Centrica's June 2026 release says "MNZ Peak Cluster … attracting a further £5bn investment in construction and operations work" [1][2]. A Member told the Commons in June 2026 that "delivering the project could ultimately require investment in the region of £5 billion", and that this "will almost certainly not be the final total bill. It will grow" [3]. The Department, asked for the projected cost, "does not hold this information" [4]. **There is no published estimate of what the 195 km onshore pipeline, its installations and its compression would cost, and the only Government body with a stake in it, the National Wealth Fund, has not published one either.**

Two benchmarks give scale, and no more than scale. The Viking CCS pipeline in Lincolnshire — 55 km of new onshore pipeline, consented in April 2025 — had a "total development cost … estimated at £240MM" in its funding statement, about £4.4 million a kilometre *(derived)* [5][6]. HyNet's Liverpool Bay system, with "35km of new pipelines" and "149km of onshore and offshore pipelines" repurposed, plus storage, is described by the North Sea Transition Authority as "about £2 billion worth of supply chain contracts" [7][8]. Applied mechanically to 195 km, the Viking rate gives something under £1 billion for the pipe alone *(derived)* — before the larger bore the applicant proposes, the terrain of the Peak District and the Cheshire river crossings, six above-ground installations, the Coastal AGI's compression, the four capture plants and the offshore pipeline and store. The BEIS study that modelled the Peak group's transport costs, discussed in Part C, Section 11, worked in pounds per tonne rather than capital sums and at a zero discount rate; Part C's Table 11.1 re-levelises it at a commercial cost of capital and shows how the per-tonne cost rises as utilisation falls.

What has been funded

The public record of funding is the July 2025 equity raise: "£28.6 million from the National Wealth Fund" and "£31 million through a joint venture vehicle" between Sumitomo's Summit Energy Evolution and Progressive Energy "as well as each of the Peak Cluster cement and lime producers", a total of "£59.6 million" [9][10]. The company's issued share capital stood at £17.648 million after a further allotment in March 2026 [11]. The Fund's financing "will be used to further develop the pipeline project through to a Final Investment Decision (FID) as early as 2028" [9]; the applicant says the development stage is "being funded by the project partners and investors, who will take the project through to Final Investment Decision (FID), if planning consent is granted. At this stage, we'll seek additional investment" [12]. The Fund's chief executive said that "substantial private investment, deployed at risk, will be needed to develop and deliver carbon capture projects across the UK" [10]. The Government has "not committed any funding for the Peak Cluster project, including for the capture facilities and the offshore storage" [13]. **Some £60 million of development money is committed, against a project described by its promoters as requiring about £5 billion; the**

remainder is to be raised after consent, on a business model that has not been stated, and the Government has not decided whether to support it.

Who would pay

Three routes exist by which a CCS pipeline can be paid for, and which of them applies determines who bears the cost (Section 14 sets out the mechanisms).

The Exchequer, through capture contracts. If the four producers obtained Industrial Carbon Capture contracts, the per-tonne payment would be "funded by the Exchequer" and would cover their "Transport and Storage (T&S) charges" — that is, the pipeline's fees would be met from Exchequer-funded payments [14]. Contracts have been offered only within the sequenced clusters; "no decision has been taken on future government support for the Peak Cluster" [15].

Consumers, through levies. The Government support package for a transport-and-storage company has, for the Track-1 clusters, been funded largely by levies: the Public Accounts Committee's summary is that "three quarters will come from levies on consumers who are already facing some of the highest energy bills in the world" [16]. No such package has been offered to this project.

Buyers of cement and lime. Without either, the producers would pay the pipeline's charges themselves, recovering them, to the extent the market allows, in the price of cement and lime; their incentive is the carbon cost they avoid, which rises as free allocation is withdrawn from 2027 and as the carbon border mechanism protects the domestic price from untaxed imports (Section 14). The Mineral Products Association's position is that "energy intensive industrial sites must be supported by enabling Government policies and business models for carbon capture use and storage" [17] — a general position from which it may be inferred that the producers do not expect to carry the cost unaided.

On the public record, none of the three routes has been secured, and the applicant has not said which it is planning on. Part C, Section 11, shows what the per-tonne cost of pipeline transport looks like at a commercial cost of capital and at the utilisation the applicant's own figures imply; that is the cost that has to be paid by someone.

The funding statement at examination

Where an Order would authorise compulsory acquisition, the applicant must show it can pay. The Government's guidance says the applicant "should also be able to demonstrate that there is a reasonable prospect of the requisite funds for acquisition becoming available"; that "any application for a consent order authorising compulsory acquisition must be accompanied by a statement explaining how it will be funded", which "should provide as much information as possible about the resource implications of both acquiring the land and implementing the project for which the land is required"; and that applicants "should be able to demonstrate that adequate funding is likely to be available to enable the compulsory acquisition within the statutory period following the order being made, and that the resource implications of a possible acquisition resulting from a blight notice have been taken account of" [18]. The 2026 application guidance requires the funding statement to "contain sufficient information to enable the Secretary of State to be satisfied that, if it were to grant the compulsory acquisition powers requested, the applicant would be able to pay the compensation necessary" [19]. In the Viking examination the Examining Authority found that "the Applicant would have access to the necessary funds and the rDCO provides a clear mechanism whereby the necessary funding can be guaranteed", on a funding statement that put the whole project at £240 million and said post-consent costs would be "funded from a combination of equity and debt finance, with the exact combination dependent upon finalisation of the business models being developed by the Department for Energy Security and Net Zero" [20][6]. **The Peak Cluster funding statement will have to show funds for the compensation on some 195 km of easements and for the installations, from a company whose filed accounts are dormant and whose parent shareholders have not published their commitments; the examination is where that showing is tested, and a parish or council can ask the Examining Authority to test it** (Part E, Sections 20 and 21).

What happens if the project stalls

A Development Consent Order does not oblige the undertaker to build. If the store is not permitted, the funding not raised or the business model not offered, the Order can lapse unexecuted; compulsory acquisition powers must be exercised within the period the Order fixes (usually five years) or they expire [21]. The Viking Order shows one way an examination can protect against a part-built scheme: a requirement that onshore works "could not begin until all offshore works or CA rights have been consented" [20]. **A parish can ask for the same — that no construction begin until the storage permit is granted and the funding to complete the pipeline is demonstrated — as a requirement in the Order** (Part E, Section 23). The risks that bear on this are the ones the record already shows: consortium changes (Section 3), the timing of the storage permit (due by mid-2027), the "policy uncertainty" the National Wealth Fund itself cites, and the cost escalation the National Audit Office warned of across the programme — "higher than expected construction costs may mean that carbon capture projects may become unviable without additional revenue support" [22].

15.3 What is uncertain, contested or not yet disclosed

- **The capital cost of the onshore pipeline** and of the whole chain.
- **The business model and the source of the remaining funding.**
- **The shareholders' commitments beyond the £59.6 million.**
- **The terms of the National Wealth Fund's investment** — preference shares were created in July 2025; the return expected is not published.
- **The cost of the capture plants**, and whether they are in the Order (Part E, Section 17).
- **What the producers would pay per tonne**, and what they can pass on.

15.4 Questions the reader may wish to put

To the applicant: What is the estimated capital cost of the onshore pipeline, the installations and the Coastal AGI, and of the capture plants? What is the funding plan to and beyond final investment decision, and on what business model? Will the applicant accept a requirement that construction not begin until the storage permit is granted and the funding to complete the pipeline is demonstrated? What per-tonne charge do the producers expect to pay?

To the Member of Parliament: Will the Department state whether it expects the pipeline's costs to fall on the Exchequer, on levy payers or on the producers, and whether it has assessed the effect on cement and lime prices?

To the host authority: Will the local impact report address the funding statement and the case for a construction-sequencing requirement?

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Section 16 — Policy-level questions (labelled as such)

16.1 Why this section is different

Everything else in this report is written to the tests the planning system applies. This section is not. It sets out the questions that a policy-minded reader will ask about a project of this kind — questions about whether the policy behind it is sensible, not about whether this application meets the policy — and it states, as fairly as the compiler can, how each side of the public debate answers them. It is labelled as debate because the distinction matters in practice: the Examining Authority and the Secretary of State will not weigh arguments about the merits of national policy, and a representation that makes them will be disregarded on that ground (Part E, Section 21). The place for these questions is Parliament, the Department and the press. A councillor who raises them there is doing something useful; a parish that puts them in a relevant representation will find them disregarded.

16.2 The questions, and how they are answered

1. Is it sensible to pay to bury CO_2 while the country imports it? The United Kingdom's merchant CO_2 supply comes largely from fertiliser plants and has failed twice in five years, disrupting food and drink production; the Peak works would capture several times the whole merchant market (Part C, Section 9). Those who put the question say that a policy which subsidises the capture of process CO_2 and pays for its burial, while the food industry pays import prices for the same molecule, is incoherent, and that a fraction of the Peak Cluster investment applied to purification, liquefaction and rail could displace the imports and part of the fragile domestic supply (Part C, Section 10, "capture for re-use with investment"). Those who defend the policy answer that the merchant market is well under a fifth of the tonnage and cannot absorb it; that the emissions trading scheme credits storage and not use because used CO_2 is, in most uses, released again; and that re-use is a supplement to storage, not a substitute for it. Part C's Table 10.2 gives the numbers on which both sides rely; the compiler's observation is that the two positions are not incompatible, and that the question the planning system can ask is only whether the re-use option was studied as an alternative (Part E, Section 22).

2. Should the pipeline be preferred to rail, road or ship? Government policy has moved: the Department now says that non-pipeline transport is "a necessity for the successful expansion of CCUS across the UK" and is building a fee mechanism for it in capture contracts, with "dispersed sites located outside of the main CCUS clusters" particularly in mind; and the 2021 strategy named Hope cement works as an example of a plant "70 to 100km, through the Peak District" from storage (Section 14). Supporters of the pipeline answer that a pipeline is the cheapest mode per tonne at scale and for the life of the asset, that 3 million tonnes a year by rail is a substantial freight operation, and that the pipeline can grow to 6.6 million tonnes. Critics answer that the per-tonne advantage shrinks or reverses at a commercial cost of capital and at less than full utilisation, that rail infrastructure and rolling stock can be acquired, and that the case has not been made in public. Part C, Sections 11 and 12, gives the comparison with the capital properly counted; the planning question is again the alternatives test.

3. Should the taxpayer, the consumer or the cement buyer pay? The National Audit Office and the Public Accounts Committee have set out the scale of the commitment to the sequenced clusters — up to £21.7 billion over 25 years, three-quarters from consumer levies — and the risk that first-of-a-kind projects do not perform. Supporters of extending support to cement and lime say that these are precisely the sectors the Committee identified as having "no viable alternatives", that unabated cement will be priced out by the carbon border mechanism and the withdrawal of free allocation, and that losing domestic production means importing cement with the same or higher emissions. Sceptics say that the cost per tonne of CO_2 abated by this route is high relative to alternatives; that the Government has not assessed this project and has declined to fund it; and that the case for a 195 km pipeline rather than a shorter chain should be made before public money follows. Section 15 sets out who pays under each model.

4. Is domestic cement supply a matter of national resilience? The trade body says imports are 30% of the market and domestic output at a 75-year low; the applicant says the region makes 40% of the country's cement and lime; the Treasury adopted the 40% figure in announcing the National Wealth Fund's investment. Those who question the resilience argument note that cement is traded

internationally, that the border mechanism addresses the carbon-cost differential from 2027, and that the resilience case is for the plants, not for any particular way of abating them; those who make it note that a plant that cannot abate will close, and that the kilns, quarries and skills are not easily rebuilt. The planning system takes need as settled by policy and does not reopen it.

5. Is capture the right answer for process emissions? Some 60–70% of a cement or lime kiln's CO_2 is chemical, from calcination, and cannot be removed by changing the fuel; the industry's own roadmap gives capture the largest share of the abatement to net zero, with clinker substitution, fuel switching and low-carbon cements making up the rest [1]. Critics of capture point to the roadmap's other levers, to novel cements and to demand reduction, and argue that capture locks in the current process; supporters answer that those levers are being pursued and still leave the calcination CO_2. The Climate Change Committee's view — that capture will be needed "in industrial subsectors with process emissions for which alternatives are unlikely to be available", cement and lime among them — is the authoritative independent statement (Section 14), and the compiler records it as such; Part C, Section 10, examines the geography that the Committee's general statement does not address.

6. Who decides these questions? None of them will be decided at examination. They are decided, if at all, by the Government's choices on cluster sequencing, allocation rounds, non-pipeline transport and the carbon price, and by Parliament's scrutiny of those choices. They are matters for the Member of Parliament and the Department rather than for a representation to the Inspectorate, which cannot act on them; Section 25.8 lists the questions in that form.

16.3 References

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Other statements in this section are referenced in Sections 14 and 15 and in Part C.

Part E — The planning and regulatory landscape

Contents of this Part. Section 17 — The Development Consent Order process from start to finish, as it stands after 24 July 2026. Section 18 — Who regulates what: the institutional map. Section 19 — The roles of local authorities and parish councils, and the positions taken to date. Section 20 — Land access, land rights and compensation (consolidation). Section 21 — Making an effective representation: framework, not sentiment. Section 22 — Route selection, alternatives and what the applicant must show. Section 23 — Environmental and community effects to be assessed, and the controls after consent. Appendix F — Regulator and stakeholder directory. Appendix G — Positions of local authorities and other bodies to date.

Conventions used in this Part. “The applicant” means Peak Cluster Limited. “The Inspectorate” means the Planning Inspectorate, which examines applications and recommends; “the Secretary of State” means the Secretary of State for Energy Security and Net Zero, who decides. “PA 2008” is the Planning Act 2008; “PIA 2025” is the Planning and Infrastructure Act 2025; “EN-1” is the Overarching National Policy Statement for Energy in its 2025 revision, in force from 6 January 2026, which will govern this application. Legislation is cited to legislation.gov.uk. Council and press statements are identified as such. **Key findings are set in bold** so that they are not lost in the detail; the emphasis marks importance, not certainty — each bold sentence carries the same references and qualifications as the text around it.

The single fact that reorganises this Part. On 24 July 2026 the statutory duties on an applicant to consult local authorities, parish councils, landowners and the community before applying were repealed. There is no longer a statutory consultation window, no consultation report, and no “adequacy of consultation” representation from councils at acceptance; the Government’s response to its consultation on the reforms says that “the merits of an application will be tested at examination, not at acceptance”. Everything a council or resident does before September 2027 is therefore done at the applicant’s discretion or on the reader’s own initiative, and its value lies in the record it creates for the examination. Every section below is written with that in mind.

Section 17 — The Development Consent Order process from start to finish

17.1 Why this matters locally

The pipeline will not be decided by any council. It is a Nationally Significant Infrastructure Project, and the decision belongs to a Secretary of State, on the recommendation of an Examining Authority appointed by the Planning Inspectorate, against a National Policy Statement that classes carbon-capture pipelines as “critical national priority” infrastructure and expects consent “in all but the most exceptional cases” once its requirements are met. A parish council that expected a planning application to its district council, with a committee, a site visit and a vote, will find none of those things. What it will find is a statutory process with fixed stages, fixed clocks and fixed forms of participation, in which a representation is weighed on its substance and its relevance to the statutory tests, and on nothing else. The process was also changed, substantially, seven weeks ago. This section sets it out as it now stands, stage by stage, with the dates as far as they are known.

17.2 What is established

Why this is a Nationally Significant Infrastructure Project

The applicant’s Scoping Report states that the project “is defined as an NSIP as set out in PA2008, Section 14(1)(g) and Section 21 as it will be a ‘cross-country’ pipeline exceeding 16.093 km in length, not for transport of air, water, water vapour or steam, promoted by a developer who is not a gas transporter” [1]. Section 21 makes the construction of a pipeline by someone other than a gas transporter an NSIP only if it is expected to be “a cross-country pipe-line” — one whose length “exceeds, or is intended to exceed, 16.093 kilometres” under the Pipe-lines Act 1962 — which would otherwise need authorisation under that Act, and which has both ends in England or Wales [2][3]. There is no diameter or pressure threshold: length alone brings a private CO_2 pipeline into the regime. The capture plants at the cement and lime works are not themselves NSIPs. The Inspectorate’s advice log records that at a meeting on 22 July 2026 it “asked the applicant to keep it informed on the progress of the section 35” — a reference to a direction by the Secretary of State under section 35 of the Act, by which development that is not an NSIP can be treated as one and included in the application [4]. The log does not say what the direction would cover. The Inspectorate’s July 2024 meeting note records the applicant’s statement that its DCO scope “includes the Nationally Significant Infrastructure Project, and Associated Development which includes above ground installations, block valves … and capture equipment to decarbonize industrial sites”, and the January 2024 note records that capture equipment not included in the DCO would be consented by the local planning authorities under the 1990 Act [16][29]; a section 35 direction would be one way of settling that scope, and EN-1 provides expressly for CCS infrastructure “brought in by section 35 direction” [5]. Whether the four capture plants will be consented in this DCO or by the local planning authorities separately is, on the public record, an open question.

Who decides, and on what basis

The Inspectorate’s project page records the applicant as Peak Cluster Limited, the stage as “Pre-application”, the decision-maker as the Secretary of State for Energy Security and Net Zero, and that “the application is expected to be submitted September 2027” [6]. The Examining Authority — one inspector or a panel — examines and reports; the Secretary of State decides. The decision is made under section 104: the Secretary of State “must decide the application in accordance with any relevant national policy statement” [7], and must have regard to that statement, to any local impact report submitted in time, to prescribed matters, and to “any other matters which the Secretary of State thinks are both important and relevant” [7]. Consent may be refused under the policy only where “the adverse impact of the proposed development would outweigh its benefits” or one of the other statutory exceptions applies [7]. The Minister described the process to the Commons in June 2026: “No decision has been made by the Government either to support the project or on the development consent order process, which will be completed … in a quasi-judicial way, by the Secretary of State” [8].

The relevant policy is EN-1. Its 2025 revision "will have effect only in relation to those applications for development consent accepted for examination after" its publication on 6 January 2026 — so it will govern this application [9]. It states that "onshore CO_2 pipelines over 16.093 kilometres in length … are within scope of this NPS" and that no technology-specific statement applies to them [9]. On need: "There is an urgent need for new carbon capture and storage (CCS) infrastructure to support the transition to a net zero economy" [9]. On priority: **"To support the urgent need for new CCS infrastructure, CCS technologies, pipelines and storage infrastructure are considered to be CNP infrastructure"** — critical national priority [9]. On the starting point: "the Secretary of State will start with a presumption in favour of granting consent to applications for energy NSIPs", and for CNP infrastructure "it is likely that the need case will outweigh the residual effects not capable of being addressed by application of the mitigation hierarchy, in all but the most exceptional cases. This presumption, however, does not apply to residual impacts which present an unacceptable risk to, or interference with, human health and public safety" [9]. Section 21 sets out what that means for a representation.

The stages, the clocks and the dates

Table 17.1 sets out the statutory stages, the time each takes, and an indicative calendar built on the applicant's September 2027 submission date *(the calendar is derived and every later date moves with the first)*.

Table 17.1 — Stages of the Development Consent Order process for this project

Stage	What happens	Statutory clock	Indicative dates
Pre-application	Applicant develops the scheme; engagement at its discretion (see below); EIA scoping (done, February 2026); survey access; notification to the Secretary of State and host authorities under s.46; publicity under s.48; Inspectorate gives advice under s.51, which is published	None for engagement; guidance encourages s.46 notification "not less than 6 months before submission" [10]	Now to September 2027; Phase 2 engagement "late 2026" per the applicant
Acceptance	Inspectorate decides whether the application is "of a standard that the Secretary of State considers satisfactory" and complies with s.37 and s.46; reasons published if refused	28 days from receipt (s.55(2)) [11]	October 2027
Notification and registration	Applicant notifies prescribed persons and local authorities and publicises; the "relevant representation period" opens; anyone may register by making a relevant representation	Not less than 30 days for EIA development (s.56(5); APFP reg 9) [12]	November–December 2027
Pre-examination	Examining Authority	No fixed statutory	Early 2028

Stage	What happens	Statutory clock	Indicative dates
	appointed; initial assessment of principal issues within 21 days of the registration deadline (Rule 5); Rule 6 letter; preliminary meeting (s.88) with at least 21 days' notice; draft examination timetable	length; typically three to four months	
Examination	Written questions and answers, written representations, local impact reports, statements of common ground, hearings (issue-specific; compulsory acquisition on request; open-floor on request), site inspections	Six months from the preliminary meeting (s.98(1)) [13]	Spring to autumn 2028
Recommendation	Examining Authority reports to the Secretary of State	Three months from the end of examination (s.98(3)) [13]	Late 2028
Decision	Secretary of State grants or refuses; statement of reasons published	Three months from the report (s.107(1)), extendable [14]	Early 2029
Legal challenge	Judicial review only; claim must be filed within six weeks of publication of the order or the reasons (s.118) [15]	Six weeks	Spring 2029
Post-consent	Requirements discharged by the relevant planning authority; construction; enforcement by the local planning authority (Section 23)	Requirements set time limits	Construction from 2029; operation 2032 (applicant's programme)

The applicant's own timetable has already slipped once: the Inspectorate's inception note of January 2024 anticipated "an anticipated DCO submission of Q1–Q3 2026" [16]; the project page now says September 2027 [6].

What changed on 24 July 2026

The Planning and Infrastructure Act 2025 received Royal Assent on 18 December 2025; its pre-application provisions were brought into force on 24 July 2026 [17][18]. For a reader who followed earlier NSIPs, the changes are these:

- **The statutory consultation duties are gone.** Section 5 of the 2025 Act omits sections 42 (duty to consult), 43, 44, 45, 47 (duty to consult local community) and 49 (duty to take account of responses) of the 2008 Act [17]. The requirement for a consultation report with the application (old s.37(3)(c)) is abolished [19]. **There is no longer any statutory obligation**

on the applicant to consult anyone before it applies. The Government's guidance says so in terms: "There is no statutory requirement for applicants to engage or consult during the pre-application stage, and nothing in this guidance should be read as creating such a requirement" [10].

- **What replaces it is notification, publicity and guidance.** A new section 46 requires the applicant to supply to the Secretary of State and to "each host local authority" its name, a statement that it intends to apply, why development consent is required, and "a summary of the proposed application, specifying the location or route" [19]; no time is prescribed, but guidance encourages this "not less than 6 months before submission" [10]. Section 48 requires the applicant to "publicise the proposed application in the prescribed manner" [19]. A new section 50 requires applicants to "have regard to any guidance issued by the Secretary of State to assist them in complying with section 48", and requires the Secretary of State to issue best-practice guidance — which was published on 3 July 2026 [10][19].
- **Acceptance no longer tests consultation.** The old acceptance condition that the applicant "complied with Chapter 2 of Part 5 (pre-application procedure)" is omitted, and with it the local authorities' "adequacy of consultation representation" [20]. The Inspectorate now decides within 28 days whether the application is "of a standard that the Secretary of State considers satisfactory", taking into account compliance with the content requirements and standards, "the applicant's approach to satisfying section 48 (duty to publicise)", and "the extent to which the applicant has had regard to any advice given under section 51" [20]. The Government's acceptance guidance states: "The degree to which the applicant has chosen to carry out pre-application engagement and consultation, and the applicant's approach to this, is not a statutory consideration in determining whether an application should be accepted … The adequacy of any engagement or consultation is also not a consideration in the assessment of a DCO application" [21]. **Its consultation response puts it in one line: "the merits of an application will be tested at examination, not at acceptance"** [22].
- **Survey access was reformed** (section 11; Section 20 below) [23].
- **Local authorities and public bodies must have regard to guidance** when preparing local impact reports (new s.60(6)) and when making representations (new s.96A) [24]; and the Examining Authority may now make orders about the costs of interested parties and those who make written representations (new s.96B, in force 18 February 2026) [25] — a provision whose use has not yet been seen in practice and on which no guidance has been published.
- **Legal challenge** was narrowed: where the High Court certifies a judicial review application as "totally without merit" there is no appeal against refusal of permission (section 13, in force 18 February 2026) [26].
- **Transition.** The only saving is for applicants who had already notified the Secretary of State under the old section 46 before 24 July 2026, who are not re-tested against the new notification requirement [18]. Whether this applicant did so is not public. Either way, a September 2027 application will be made entirely under the new regime.

Two consequences follow for a council or resident. First, whatever engagement the applicant runs in "late 2026" — it has described this as "Phase 2 consultation" and the Inspectorate advised it in July 2026 "to remove mention of statutory consultation and the adequacy of consultation milestone" from its programme [4] — is at its discretion as to scope, form and timing. Guidance encourages openness "about the alternatives and options being considered (where relevant)" and clarity about "what aspects of a proposed development are fixed, what is still being developed, what feedback can influence" [10], but the Inspectorate will not test compliance with it at acceptance. Second, the material that will reach the Examining Authority about the quality of that engagement is what participants put on the record themselves: correspondence with the Inspectorate under section 51 (which is published), relevant representations, local impact reports, and the applicant's own voluntary "engagement summary" and "key issues tracker" if it chooses to file them [10][27].

What the application will contain

The application must be accompanied by the documents prescribed in regulation 5(2) of the 2009 Regulations and described in the Government's Part 2 guidance [28][27]: the Environmental Statement; the draft Order and an explanatory memorandum; land plans and works plans; a flood risk assessment and a Habitats Regulations report where applicable; a statement of statutory

nuisance; and, where compulsory acquisition is sought, the Book of Reference, a Statement of Reasons and a Funding Statement which “must contain sufficient information to enable the Secretary of State to be satisfied that, if it were to grant the compulsory acquisition powers requested, the applicant would be able to pay the compensation necessary” [27]. Voluntary but encouraged are a planning statement, a key issues tracker (information “which sets out the applicant’s view of the principal issues identified through pre-application process and the extent to which it is anticipated they can be settled during the examination”) and a “land and rights negotiation tracker” [27]. From 2 November 2026 an outline biodiversity net gain plan is required [27]. The documents a council should read first are the Environmental Statement’s alternatives chapter, the Statement of Reasons, the draft Order’s requirements schedule, and the Book of Reference for its area.

The Inspectorate’s record on this project

Everything the Inspectorate does at pre-application is published on the project page: meeting notes with the applicant (January and July 2024), the Scoping Opinion of 19 February 2026, a section 51 advice log, and advice given to members of the public who write to the project mailbox — including, in August 2026, advice to a correspondent on survey-access powers which confirmed that **“it is for the applicant to ensure they have shown regard to all advice given on this project specifically when they submit their development consent order application”** [29][30]. That advice is now, by statute, a matter the Inspectorate must take into account at acceptance [20]. Writing to the Inspectorate is therefore not a private enquiry: it is the one route by which a resident or council can put a point on the statutory record before the application exists.

17.3 What is uncertain, contested or not yet disclosed

- **The section 35 direction** referred to in the July 2026 advice log — what it would cover and whether it has been sought.
- **Whether the applicant notified under the old section 46** before 24 July 2026.
- **The scope, form and dates of the “late 2026” engagement**, and whether the applicant will file an engagement summary or key issues tracker.
- **The examination format** — single inspector or panel — and whether the Secretary of State will use any “fast track” procedure (the Inspectorate’s guidance refers to a four-month examination for that route).
- **Section 96B costs orders** — no guidance yet on when the Examining Authority might use them.

17.4 Questions the reader may wish to put

To the applicant: When will the section 46 notification be made, and will the summary of the proposed application, with its route, be published at the same time? What will the “late 2026” engagement cover, what is fixed and what remains open, and will responses and the applicant’s reply to them be published? Will the applicant file an engagement summary and key issues tracker with the application? Is a section 35 direction being sought, for what development, and will the capture plants be part of this application?

To the Inspectorate: Will the examination be by a panel? Has a section 35 request been received?

To the host local authorities: Has the authority received a section 46 notification? Has it begun a draft local impact report?

17.5 References

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8. House of Commons, adjournment debate, “Carbon Capture Pipeline Projects: Cheshire”, 15 June 2026, Hansard, vol. 787 (Minister for Energy). https://hansard.parliament.uk/commons/2026-06-15/debates/83CE32B9-8888-48B5-9CBF-F754EA8FC74A/CarbonCapturePipelineProjectsCheshire
9. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (EN-1)*, 2025 revision, published 6 January 2026, paragraphs 1.3.5, 1.6.2, 3.5.1, 3.5.5, 3.5.7, 4.1.3, 4.1.7, 4.2.16–4.2.17, 4.2.28. https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage
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11. Planning Act 2008, section 55(2). https://www.legislation.gov.uk/ukpga/2008/29/section/55
12. Planning Act 2008, section 56(5); The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, regulation 9(4). https://www.legislation.gov.uk/ukpga/2008/29/section/56 ; https://www.legislation.gov.uk/uksi/2009/2264/regulation/9
13. Planning Act 2008, section 98. https://www.legislation.gov.uk/ukpga/2008/29/section/98
14. Planning Act 2008, section 107. https://www.legislation.gov.uk/ukpga/2008/29/section/107
15. Planning Act 2008, section 118. https://www.legislation.gov.uk/ukpga/2008/29/section/118
16. Planning Inspectorate, *Peak Cluster CCS Pipeline: Inception Meeting Note*, EN0710001-000002, 29 January 2024.
17. Planning and Infrastructure Act 2025, c. 34, section 5. https://www.legislation.gov.uk/ukpga/2025/34/section/5
18. The Planning and Infrastructure Act 2025 (Commencement No. 4 and Transitional Provisions) Regulations 2026, SI 2026/641, regulations 3 and 6. https://www.legislation.gov.uk/uksi/2026/641/made
19. Planning and Infrastructure Act 2025, section 6 (amending Planning Act 2008 sections 37, 46, 48 and 50). https://www.legislation.gov.uk/ukpga/2025/34/section/6
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26. Planning and Infrastructure Act 2025, section 13. https://www.legislation.gov.uk/ukpga/2025/34/section/13
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28. The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, regulation 5(2). https://www.legislation.gov.uk/uksi/2009/2264/regulation/5
29. Planning Inspectorate, Peak Cluster CCS Pipeline (EN0710001) documents page: meeting notes EN0710001-000002 (29 January 2024) and EN0710001-000004 (1 July 2024); Scoping Opinion EN0710001-000018 (19 February 2026). https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001/documents
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Section 18 — Who regulates what: the institutional map

18.1 Why this matters locally

A resident who asks “who is in charge of this?” gets a different answer from every body they ask, and each answer is correct. The Inspectorate examines but does not decide; the Secretary of State decides but does not examine; HSE regulates the pipeline’s safety but only once it has been notified, after consent; the Environment Agency permits the capture plants but not the pipeline; the county council writes the emergency plan but does not determine the application; the parish council may speak at a hearing but has no formal role before the application exists. This section sets out each body’s statutory function, the stage at which it acts, whether its view binds, and how a council or resident can reach it — and then names the gap that runs through the middle of the map at the stage the project is in now.

18.2 What is established

The consenting bodies

The Secretary of State for Energy Security and Net Zero decides the application under section 104, in accordance with EN-1 (Section 17). **The Planning Inspectorate** administers the process on the Secretary of State’s behalf, decides acceptance, appoints and supports the Examining Authority, publishes the record, and gives advice under section 51 which it must publish and to which the applicant must have regard [1]. The Inspectorate’s own advice is non-statutory: “there is no legal obligation to follow it” [2] — but the extent to which the applicant has had regard to it is now an acceptance consideration [3].

The statutory consultees and statutory parties

The 2009 Regulations prescribe the bodies the applicant must notify when an application is accepted (until 24 July 2026 they were also the bodies it had to consult beforehand; the column heading has been changed from “Consultee” to “Persons to be notified”) [4]. The 2015 Regulations prescribe the “statutory parties” who are invited to the preliminary meeting and may become interested parties by saying so [5]. Table 18.1 lists those relevant to an onshore CO_2 pipeline, with the circumstance that engages each.

Table 18.1 — Prescribed bodies for a pipeline application in England

Body	Prescribed circumstance	What it actually does on this project
The relevant parish council	“All proposed applications” / “All cases” [4][5]	Notified of the accepted application; a statutory party; may register as an interested party and request an open-floor hearing (Section 19). No formal pre-application role since 24 July 2026
Health and Safety Executive	“All proposed applications” / “All cases”	Statutory consultee; regulator of the pipeline under the Pipelines Safety Regulations once notified (Section 7); land-use planning zones after consent (Section 8); told the Inspectorate in February 2026 that it “does not comment on EIA Scoping Reports” and deferred its full advice
Environment Agency	Applications “likely to affect land in England”	Consultee; regulator of flood-risk activity permits for works in

Body	Prescribed circumstance	What it actually does on this project
		or within 8 m of a main river [6]; abstraction and discharge consents for hydrotesting; environmental permits for the capture plants (Schedule 1 activity 6.10 — capture of CO_2 for geological storage) but not for the pipeline or its valve stations, which are not listed activities [7]; joint COMAH competent authority with HSE [8]
Natural England	Applications “likely to affect land in England”	Adviser to the Secretary of State as “appropriate nature conservation body” under the Habitats Regulations; its consent for operations on a Site of Special Scientific Interest can be removed by the Order only with its agreement [9][10]; consultee under the Town and Country Planning regime on development involving loss of 20 ha or more of best and most versatile land — a trigger that does not apply as such to a DCO (Section 8); its scoping response asked for the alternatives assessment to cover ship, rail and road and alternative stores (Section 22)
Historic England	Applications “likely to affect land in England”	Consultee; scheduled monument, listed building and conservation area consents are subsumed in the Order (s.33) [11]
The Coal Authority	Applications in “areas of past, present, or future coal mining”	Consultee; the Scoping Opinion records that “the pipeline crosses multiple coal mining reporting areas” (ID 3.14.68) [12]
Canal & River Trust	Applications “likely to have an impact on inland waterways”	Consultee; crossings of the Macclesfield, Trent & Mersey and Shropshire Union canals; its scoping comments on bridge weight limits and canal receptors are in the Opinion [12]
Forestry Commission	Applications likely to affect woodland	Consultee
The relevant highway authority; the Secretary of State for Transport	Applications likely to affect the road network; the strategic road network	Consultees; crossings of the M6, M56 and A-roads need protective provisions and traffic management; the county and unitary councils are highway

Body	Prescribed circumstance	What it actually does on this project
		authorities for local roads
Relevant statutory undertakers	Applications “likely to affect their functions”	Network Rail (line crossings — its scoping response concerns asset protection [12]); National Gas Transmission, Cadent and RWE (thirteen existing major accident hazard pipelines — seven National Gas, five Cadent and one RWE — whose consultation zones the corridor crosses, per HSE [Section 7]); water undertakers (United Utilities’ late scoping response is on the register [13]); electricity undertakers. Each will have “protective provisions” in the Order — the Viking CCS Order 2025 has fourteen such parts [14]
Fire and rescue, police and ambulance; the relevant Local Resilience Forum	“All cases” [5]	Statutory parties; the emergency-planning bodies of Section 7
UK Health Security Agency	Applications involving chemicals “likely to affect significantly public health”	Consultee on the health assessment
Marine Management Organisation	Statutory party: “all applications likely to affect the marine area in England and Wales” [5]; notified under section 46	Consultee for the works below mean low water; the offshore consents are sought separately from OPRED (Section 13)
The Crown Estate Commissioners	Applications “likely to impact on the Crown Estate”	Consultee (foreshore and seabed)

Not prescribed, and therefore engaged only through their own regimes, are Ofgem (the economic licence under the Energy Act 2023), the North Sea Transition Authority (the storage permit) and OPRED (offshore environmental consents) — all covered in Section 13 — and the Department for Transport and Network Rail as strategic bodies for the rail alternative (Section 12).

Consents the Order can and cannot include

A Development Consent Order can remove the need for planning permission, pipe-line construction authorisation, scheduled monument and listed building consents and others listed in section 33 [11]. It can also remove the need for a “prescribed consent” — an environmental permit, a water abstraction licence, a flood-defence consent, a Site of Special Scientific Interest consent, a land drainage consent, a protected-species licence — but “only if the relevant body has consented to the inclusion of the provision” [10][15]. In practice the Environment Agency and Natural England rarely consent, and the applicant obtains those permits separately after the Order; the Order will carry “protective provisions” for each undertaker whose apparatus it crosses, negotiated between them and enforceable as part of the Order [14].

The local authorities

The Inspectorate’s transboundary screening lists the host authorities: “Peak District National Park Authority; High Peak Borough Council; Staffordshire Moorlands District Council; Staffordshire County Council; Derbyshire Dales District Council; Derbyshire County Council; Cheshire East Council; Cheshire West and Chester Council and: Wirral Council” [16]. In the two-tier counties the district

council is the local planning authority for most purposes and the county council the minerals and waste planning authority, highway authority and emergency-planning authority; within the National Park the Park Authority is the planning authority; Cheshire East, Cheshire West and Chester and Wirral are unitary. Staffordshire County Council has recorded that it "will remain a statutory consultee during the application until vesting day (April 2028) of the new local authorities" under local government reorganisation — a change that will fall in the middle of the examination [17]. Their roles are the subject of Section 19.

The emergency-planning bodies

The county and unitary councils (and on Merseyside the fire authority) carry the statutory duty to prepare the emergency plan for a major accident hazard pipeline once notified by HSE (Section 7), working through the Cheshire Resilience Forum, the Derbyshire Resilience Partnership, Staffordshire Prepared and the Merseyside Resilience Forum. These bodies act after consent; nothing requires them to be engaged before it, and the Scoping Opinion records only that the applicant's Scoping Report proposes to leave health-and-safety matters to that later regime, which the Inspectorate accepted "providing that the ES can demonstrate that the regulations and legislation referenced provide adequate mitigation" [12].

The gap in the map

At the stage the project is in now, and until September 2027, the map has a gap in it, and it is stated here so that residents and councils do not look for a body that does not exist. No public body has power to require the applicant to disclose its route alternatives, to answer a landowner's questions, or to engage with a parish council before it applies. The statutory consultation duties were repealed on 24 July 2026 (Section 17). HSE told the Inspectorate in February 2026 that it does not comment on scoping and would give its full advice when consulted under section 42 — a section that has since been repealed (Section 7). The Inspectorate has told correspondents on this project that pre-application questions are for the applicant, and that its own role is to publish advice and to test, at acceptance, whether the applicant has had regard to it [1][18]. The Minister told the Commons in June 2026 that "the Peak project is being developed independent of Government and is at an early stage" and that "consultation is not a briefing exercise; it is a listening exercise, and a reshaping of things on the basis of what we hear back" — an expectation, not a power [19]. The guidance the applicant must have regard to encourages openness about alternatives and clarity about what is fixed [2], and the Government has said that "the merits of an application will be tested at examination, not at acceptance" [20]. That is the whole of the accountability at this stage: the record, and the examination.

18.3 What is uncertain, contested or not yet disclosed

- **Which prescribed bodies the applicant has engaged**, and what they have said — none of it is published until the application, unless the body publishes it.
- **Whether the capture plants will be consented in the Order** (the section 35 question, Section 17) — which determines whether the Environment Agency's permits for them, and the district councils' role, run in parallel or separately.
- **The protective provisions** each undertaker will require — negotiated privately and revealed in the draft Order.
- **Local government reorganisation** in Staffordshire (April 2028) and any equivalent in Derbyshire or Cheshire during the examination period.

18.4 Questions the reader may wish to put

To the applicant: Which prescribed bodies has the applicant engaged to date, and will their responses be published with the application? Will the Environment Agency and Natural England consent to any prescribed consents being included in the Order, or will those be sought separately?

To HSE: How and when will HSE give the land-use planning advice it deferred in February 2026 to a consultation route that has since been repealed?

To the county and unitary councils: Has the council been approached about emergency planning for a major accident hazard pipeline, and has it engaged the Local Resilience Forum?

18.5 References

1. Planning Act 2008, sections 51, 55(4)(e) (as substituted 24 July 2026) and 104. https://www.legislation.gov.uk/ukpga/2008/29
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4. The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, Schedule 1 (table substituted 30 April 2024 by SI 2024/332; heading amended 24 July 2026 by SI 2026/735). https://www.legislation.gov.uk/uksi/2009/2264/schedule/1
5. The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015, SI 2015/462, regulation 3 and Schedule 1. https://www.legislation.gov.uk/uksi/2015/462/schedule/1
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7. The Environmental Permitting (England and Wales) Regulations 2016, SI 2016/1154, Schedule 1, Part 2, Section 6.10 (capture of carbon dioxide streams for geological storage). https://www.legislation.gov.uk/uksi/2016/1154/schedule/1
8. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (EN-1)*, 2025 revision, paragraphs 4.13.2–4.13.8.
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11. Planning Act 2008, section 33. https://www.legislation.gov.uk/ukpga/2008/29/section/33
12. Planning Inspectorate, *Scoping Opinion: Proposed Peak Cluster CCS Pipeline*, EN0710001-000018, 19 February 2026, IDs 3.3.26, 3.4.3, 3.14.1, 3.14.68 and Appendix 2 (HSE, Network Rail, Canal & River Trust responses).
13. Planning Inspectorate, Peak Cluster CCS Pipeline documents page, EN0710001-000190 (United Utilities late response) and EN0710001-000056 (National Highways response).
14. The Viking CCS Carbon Dioxide Pipeline Order 2025, SI 2025/509, Schedule 9 (protective provisions, Parts 1–14). https://www.legislation.gov.uk/uksi/2025/509/contents/made
15. Planning Act 2008, section 150. https://www.legislation.gov.uk/ukpga/2008/29/section/150
16. Planning Inspectorate, *Regulation 32 Transboundary Screening*, EN0710001-000199, 30 March 2026.
17. Staffordshire County Council, Economy, Infrastructure and Communities Overview and Scrutiny Committee, 25 June 2026, report “Peak Cluster Pipeline”. https://staffordshire.moderngov.co.uk/documents/s207691/Peak%20Cluster%20Pipeline.pdf
18. Planning Inspectorate, section 51 advice published on the Peak Cluster CCS Pipeline project, August 2026 (advice register). https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001/s51advice
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Section 19 — The roles of local authorities and parish councils, and the positions taken to date

19.1 Why this matters locally

Councils do not decide this application, but they are not bystanders either. A host local authority is automatically an interested party, is invited to write the local impact report the Secretary of State must have regard to, can now recover its costs from the applicant, will discharge the Order's requirements and enforce it after consent, and — since 24 July 2026 — is the applicant's principal statutory point of contact before the application is made. A parish council has none of those powers but retains the ones that matter at examination: it can register, it can put evidence in, and it can require an open-floor hearing. This section sets out what each tier can do at each stage, what it costs and who pays, and then records what the councils along the route have actually resolved so far — which, for a councillor deciding what to do next, is the most useful table in this Part.

19.2 What is established

Host local authorities

A local authority is a "host" if the land is in its area, and a "neighbouring" authority if it shares a boundary with a host [1]. The nine host authorities are listed in Section 18. Their statutory functions across the process are these:

- **Pre-application.** The applicant must supply each host local authority with its section 46 notification — name, intention to apply, why consent is required, and "a summary of the proposed application, specifying the location or route" [2]. Beyond that, engagement is at the applicant's discretion; the Government's guidance expects local authorities to help the applicant understand "the local planning policy context, local constraints, community issues and how to identify harder-to-reach groups (including input from Parish and Town Councils, where relevant)", and says they "are expected to engage constructively … even where a local authority has concerns in principle" [3]. The applicant and the authority may enter a planning performance agreement to fund that engagement [4].
- **Cost recovery.** From 8 June 2026 "a local authority in whose area the land is situated" is a prescribed body able to charge fees for "any advice, information or other assistance (including a response to a consultation) provided in connection with an application or proposed application" [5][6]. **A host authority no longer has to absorb the cost of engaging with the applicant; it can charge for it.** The fee "must not exceed the costs reasonably incurred in providing the relevant services", and the guidance says this "could include where additional professional expertise is needed in order to provide a service, or costs associated with site visits or attendance at examinations" [6] — so external consultants engaged to produce the authority's advice or response are within the scheme. What the guidance does not address is the cost of work that is not a "service" to the applicant — preparing a local impact report, or making the authority's own case at examination; Derbyshire County Council's reported agreement under which the applicant funds its consultants for "its continued participation in the DCO process" (Table 19.1) shows that arrangements beyond the statutory fee can be made by agreement. Parish councils are not prescribed.
- **Interested party.** Every host local authority is an interested party as of right (s.102(1)(c)) [7].
- **Local impact report.** The Secretary of State must invite each host and neighbouring authority to submit "a report in writing giving details of the likely impact of the proposed development on the authority's area" [8]; the Secretary of State "must have regard to" any such report submitted in time [9]; the authority "must have regard to any relevant guidance" in preparing it [8]. The Inspectorate describes the report as "a technical evidence-based assessment of all the impacts" whose purpose "is to make the Examining Authority aware of the potential impacts of the project based on local knowledge", and the Government's July 2026 guidance says authorities should be invited to submit draft reports early so that they are "available to the Examining Authority during pre-examination" [10][11]. Authorities may include parish councils' points in the report "where they are relevant to impacts which the

local authority wants to highlight", and should encourage parishes to make relevant representations directly [10].

- **Statements of common ground** — "a written statement prepared jointly by the applicant and another interested party … setting out the factual matters about the application on which they agree" — are requested by the Examining Authority in its timetable and narrow the issues in dispute [11].
- **Representations and hearings.** A local authority makes written representations and appears at hearings like any interested party, and from 24 July 2026 "must have regard to any guidance issued by the Secretary of State" in doing so (s.96A) [12].
- **After consent.** The Inspectorate's advice states that the local authority "are likely to have responsibility for: discharging the requirements of the DCO; responding as a consultee about the discharge of requirements; monitoring the works as required by the DCO; carrying out enforcement actions as necessary" [10]. Section 23 sets out how that works.

High Peak Borough Council's own public statement puts the position accurately: "The council is not involved in this project and will not be determining the planning consent for this scheme as it is a Nationally Significant Infrastructure Project (NSIP)", while describing its host-authority role as submitting a local impact report, written representations, attending hearings, discharging requirements and monitoring compliance [13].

Parish and town councils

Until 24 July 2026 the relevant parish council was a body the applicant was required by statute to consult before applying. That requirement went with section 42 [14]. What remains is this:

- The parish council is a prescribed **person to be notified** when the application is accepted ("all applications") [15], and a **statutory party** entitled to be invited to the preliminary meeting and to become an interested party by saying so [16].
- It becomes an **interested party** in any event by making a relevant representation within the registration period [7][17]. The Inspectorate's advice is that a representation "should include full details of the issues that the person or organisation want to be considered, including evidence where necessary" and "should not just say 'we support' or 'we object' to the project" [17]. Section 21 sets out what that means.
- As an interested party it may make written representations, answer the Examining Authority's questions, attend issue-specific hearings, and — by notifying the Inspectorate by the deadline — **require an open-floor hearing to be held**: "if the Secretary of State receives notification from at least one interested party before the deadline, the Examining authority must cause an open-floor hearing to be held", at which "each interested party is entitled … to make oral representations" [18].
- It has no local impact report of its own, no cost recovery, and no statutory pre-application standing. The Government's guidance refers to parish councils only as a channel for identifying "harder-to-reach groups" through the principal authority [3]. The practical routes are therefore: through the host authority's local impact report; by its own relevant representation and evidence; and by writing to the Inspectorate under section 51, which is published (Section 17).

The Inspectorate's advice pages also make a point that bears on how parishes and residents' groups organise: "repeated identical submissions can be unhelpful and affect the efficiency of the NSIP process", and people with the same concerns are encouraged to "form a group and make one submission on behalf of everyone" [19]. A parish council that gathers its residents' evidence into one properly referenced representation is following that advice.

What the councils along the route have resolved

Table 19.1 records the positions on the public record at the date of this briefing, with the source for each. Appendix G reproduces the operative text where it is available. Sources are labelled: council minutes and reports are primary; press and party-website reports are marked as such and should be replaced with the minute when it can be obtained.

Table 19.1 — Positions of local authorities and other bodies to date

Body	Date	Position	Source
Wirral Council (extraordinary meeting)	9 March 2026	Three motions each carried 56:0 with one abstention. Operative resolution: “Request that the Government cancel the Peak Cluster project”; “Formally oppose routing the Peak Cluster CO_2 pipeline through the Wirral and submit objections to the relevant planning and regulatory authorities”; call for an “independently verified environmental and safety impact assessment”; “Demand robust emergency-response planning, a legally binding regulatory framework, and long-term monitoring provisions should the project proceed”; letter to the Secretary of State to be signed by all councillors	Council minutes [20]

Body	Date	Position	Source
Wirral Council (Policy and Resources Committee)	9 September 2026	Decision on whether to grant the applicant a survey-access licence over council land (three licences, about 18 months, £900 per licence); officer report states that from 24 July 2026 the applicant may enter under section 53 after notice. Reported on 10 September 2026 as refused unanimously: “Having carefully considered the advice, we supported the decision not to grant Peak Cluster access to council-owned land for these surveys” (Councillor Jenkinson, as quoted); the minute had not been published at the date of this briefing	Committee report [21]; press [37]
Derbyshire County Council	25 March 2026	Cross-party motion carried: the Council “supports meaningful environmental action, but cannot support the Peak Cluster carbon dioxide pipeline”; resolves to “formally record its opposition, in principle, to the proposals for the carbon dioxide pipeline at each stage”, to write to ministers, to “work with other Councils and stakeholders collaboratively”, and to support the quarries and cement industry in securing funding “to reduce emissions at source”	Council minutes [22]
Derbyshire County Council	July 2026	Reported decision to enter agreements under which the applicant funds the council’s specialist consultants for its participation in the DCO process	Local press; decision record not located [23]

Body	Date	Position	Source
Cheshire East Council (Corporate Policy Committee)	30 April 2026	Officer report “Peak Cluster — Update”: officers’ view, as reported, that “the pipeline corridor should follow the proposed option to the north of Middlewich which would appear to present significantly less constraints and is the most viable option to take forward”; committee noted the update and agreed to submit formal feedback on Phase 1; an amendment for a full council debate was defeated	Committee agenda (report itself not retrievable here); press report of officer wording [24]
Cheshire East Council	15 July 2026	Notice of motion that the council “should seek to oppose the Peak Cluster proposals”; reported as referred to Cabinet	Press [25]
Cheshire West and Chester Council	21 April 2026	Motion to oppose the project reported as “passed near unanimously”, with a letter to ministers	Party website and press; minute not retrievable here [26]
Cheshire West and Chester Council	February 2026	Scoping response: pollution accidents to be scoped in given “the proximity to the Hoole Bank Tar Lagoon”; the Inspectorate declined to scope the matter out (ID 3.14.74)	Scoping Opinion; press [27]
Staffordshire County Council	16 July 2026	Motion carried: the council “has only a statutory consultee technical planning role, and the final decision lies with the Government”; resolves to “continue to engage fully with the consultation process”, to write to Government and the promoter “to request that the voices of local residents and councillors are actively sought”, and to ensure	Council minutes [28]

Body	Date	Position	Source
		members for affected areas can make representations. Engagement-focused, not opposition	
Peak District National Park Authority	2026	Corporate risk register: “Harm to Special Quality features (in particular, landscape character, archaeology, wildlife/nature and farming economy)”; “the potential benefit of the pipeline in climate change mitigation is a key consideration”; risk reduced from red to amber after the proposal was “reduced to one pipeline” within the Park; mitigation is to “continue positively engaging at the pre-application advice stage” and to prepare a local impact report	Authority papers [29]
High Peak Borough Council	May 2026	Explains its host-authority role; no position on the merits	Council website [13]
Cranage Parish Council	26 February 2026	“Formally objects to the proposed high-pressure CO_2 pipeline … passing through the Parish of Cranage”; asks, if approved, for additional emergency shut-down valves and rerouting south of Holmes Chapel	Parish council website [30]
Gawsworth Parish Council	3 March 2026	“Strong objection to the Peak Cluster proposals as currently drafted”; the project “fails to demonstrate that the mitigation hierarchy has been applied”; an above-ground installation proposed in the Green Belt when “more logical, less harmful southern alternatives exist”	Community website reproducing the resolution [31]
North Rode Parish Council	5 February 2026	Scoping response (in Appendix 2 to the	Inspectorate Scoping Opinion, Appendix 2

Body	Date	Position	Source
		Scoping Opinion): questions for the Environmental Statement on the River Dane crossing, narrow lanes, access to farmland “bisected by the working width”, restrictions “alongside and above the pipeline”, drainage reinstatement, phasing and “what recourse will be in place if the work is not done to the satisfaction of the land owners”; no position on the merits	[36]
Whaley Bridge Town Council	18 February 2026	Scoping response: “concerned about the pipeline coming through the urban area and request that an alternative, more direct, route is looked for in the upper Goyt Valley”	Inspectorate register [32]
Chester Zoo	18 August 2026	“The regional environmental impacts of the Peak Cluster pipeline, as proposed, are unacceptable”; “decarbonising industry should not come at the expense of nature”	Institutional statement [33]
House of Commons (adjournment debate)	15 June 2026	Debate secured by Aphra Brandreth MP; Minister: “Consultation is not a briefing exercise; it is a listening exercise, and a reshaping of things on the basis of what we hear back”; “I have been very clear with developers directly that the project has to take local views into account and offer clear benefits to local communities”; “no decision has been made by the Government either to support the project or	Hansard [34]

Body	Date	Position	Source
		on the development consent order process”	
House of Commons (Westminster Hall)	15 July 2026	Debate “Peak Cluster Pipeline and Project” secured by Esther McVey MP; the Member for Congleton: constituents “do not feel engaged with; they do not feel that they have a voice in this process”; the Minister: “Applications must demonstrate genuine community engagement and learning from the views of communities; it is not just a listening exercise but a shaping exercise, and that has not yet concluded”; “Peak Cluster is also not one of the clusters that the Government have initially taken forward”	Hansard [35]

Three patterns stand out. The unitary and county councils at the Wirral and Derbyshire ends have resolved to oppose; the Cheshire authorities have moved from officer-level route preferences towards political motions of opposition, with Cheshire East’s still unresolved; Staffordshire has confined itself to engagement. The authorities and parishes that have addressed the route — Wirral, Derbyshire, Cheshire East’s officers, Cranage, Gawsworth and Whaley Bridge — have each said, in different terms, that alternatives have not been shown or that the corridor should be elsewhere; Staffordshire, the Park Authority and High Peak have not taken a position on the route. And no parish council has, on the public record, combined with others: each has objected alone.

Resourcing

No council has published what it has spent or budgeted on this project. Two mechanisms now exist to fund a host authority’s work: the statutory cost-recovery power (above), and the arrangement Derbyshire County Council is reported to have reached under which the applicant funds the council’s consultants — a model that other host authorities may wish to seek, since the applicant’s guidance-based expectation to engage with authorities is not matched by any obligation to fund them beyond a planning performance agreement [23]. Parish councils have neither, and depend on their precept, on their principal authority, and on pooling evidence with neighbouring parishes and residents’ groups.

19.3 What is uncertain, contested or not yet disclosed

- **The operative text of the Cheshire East (30 April 2026) and Cheshire West and Chester (21 April 2026) resolutions** — the committee documents could not be retrieved for this draft; the officer wording is from a press report.
- **The outcome of Cheshire East’s July 2026 motion** and of Wirral’s 9 September 2026 licence decision.
- **The Derbyshire cost-recovery arrangement** — decision record and terms.

- **Whether any host authority has begun a draft local impact report** or entered a planning performance agreement.
- **The date and Hansard reference of the July 2026 debate** in which the Member for Congleton spoke.
- **Positions of Staffordshire Moorlands, Derbyshire Dales, and the parishes not listed** — none found on the public record.

19.4 Questions the reader may wish to put

To the host authority: Has the council received the applicant's section 46 notification? Has it appointed a lead officer, begun a draft local impact report, and decided whether to charge the applicant under the 2026 fees regulations or to seek a funded arrangement of the Derbyshire kind? Will it ask parish councils for their evidence for inclusion in the local impact report, and on what timetable? Will it publish its correspondence with the applicant?

To the parish council: Has the council decided whether to register as an interested party when the application is accepted, and who will prepare its relevant representation? Has it approached neighbouring parishes about a single, jointly evidenced submission? Has it written to the Inspectorate on any matter it wants on the published record before the application?

To the applicant: Which host authorities has it engaged, and under what agreements? Will it publish its engagement summary?

19.5 References

1. Planning Act 2008, section 56A. https://www.legislation.gov.uk/ukpga/2008/29/section/56A
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4. Planning Inspectorate, *Nationally Significant Infrastructure Projects: Advice for local authorities*, updated 30 July 2026 (planning performance agreements). https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-for-local-authorities
5. The Infrastructure Planning (Fees) (Amendment) Regulations 2026, SI 2026/513 (in force 8 June 2026). https://www.legislation.gov.uk/uksi/2026/513/made
6. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Infrastructure Planning (Fees) Regulations 2010 — cost recovery by the Planning Inspectorate and public bodies*, July 2026, paragraphs 2.8, 2.11 and 2.12. https://www.gov.uk/guidance/planning-act-2008-infrastructure-planning-fees-regulations-2010-cost-recovery-by-the-planning-inspectorate-and-public-authorities-july-2026
7. Planning Act 2008, section 102(1). https://www.legislation.gov.uk/ukpga/2008/29/section/102
8. Planning Act 2008, section 60 (subsection (6) inserted 24 July 2026). https://www.legislation.gov.uk/ukpga/2008/29/section/60
9. Planning Act 2008, section 104(2)(b). https://www.legislation.gov.uk/ukpga/2008/29/section/104
10. Planning Inspectorate, *Nationally Significant Infrastructure Projects: Advice for local authorities*, updated 30 July 2026. https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-for-local-authorities
11. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on the examination stage of an application*, 3 July 2026, paragraphs 3.17, 4.6 and 4.10; and *Consultation on streamlining infrastructure planning: government response*, 3 July 2026. https://www.gov.uk/guidance/planning-act-2008-guidance-on-the-examination-stage-of-an-application
12. Planning Act 2008, section 96A (inserted by Planning and Infrastructure Act 2025, section 8). https://www.legislation.gov.uk/ukpga/2025/34/section/8

13. High Peak Borough Council, “Peak Cluster — Carbon Capture Pipeline Project” (page last modified 11 May 2026). https://www.highpeak.gov.uk/article/8494/Peak-Cluster—Carbon-Capture-Pipeline-Project
14. Planning and Infrastructure Act 2025, section 5. https://www.legislation.gov.uk/ukpga/2025/34/section/5
15. The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, Schedule 1. https://www.legislation.gov.uk/uksi/2009/2264/schedule/1
16. The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015, SI 2015/462, regulation 3 and Schedule 1; Planning Act 2008, sections 88(3) and 89(2A). https://www.legislation.gov.uk/uksi/2015/462/schedule/1
17. Planning Inspectorate, *Nationally Significant Infrastructure Projects: How to register to have your say and make a relevant representation*, updated 30 July 2026. https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-how-to-register-to-have-your-say-and-make-a-relevant-representation
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19. Planning Inspectorate, *Nationally Significant Infrastructure Projects: Advice for submitting representations or comments*, updated 25 August 2026. https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-for-submitting-representations-or-comments
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28. Staffordshire County Council, Council, 16 July 2026, notice of motion 6(b) and printed minutes. https://staffordshire.moderngov.co.uk/documents/g18254/Printed%20minutes%2016th-Jul-2026%2010.00%20County%20Council.pdf?T=1
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Section 20 — Land access, land rights and compensation

20.1 Why this matters locally

For the owner or occupier of land in the corridor, the project arrives in three stages: a request to survey, a request for rights, and — if agreement fails — compulsory acquisition under the Order. Each stage has its own law, and at each the owner or occupier has rights and choices that are not always apparent from the applicant's correspondence. This section consolidates the position; compensation and the easement strip are covered in Section 8. It is written for a councillor advising residents, and for a parish council that may itself own land in the corridor.

20.2 What is established

Survey access

The applicant seeks voluntary survey-access licences covering some eighteen months of topographic, ecological, archaeological and ground-investigation work, together with a Land Interest Questionnaire. Nothing obliges anyone to sign either; signing is a commercial decision on terms, and a licence does not concede the route or waive the right to object (Section 8 sets out what to check before signing). **If there is no agreement, the statutory route is section 53 of the 2008 Act, reformed from 24 July 2026: a person authorised in writing by the applicant may enter "at any reasonable time" for surveying, but only after "14 days' notice of the intended entry has been given to every owner or occupier of the land", in a notice whose contents are prescribed by the Rights of Entry Notice Regulations 2026 — including a plan, dates, evidence that the applicant intends to seek development consent, evidence of attempts to contact the owner, a statement of the offence of obstruction and "a statement of the recipient's rights under section 53(7)"** — and force may be used only under a warrant from a justice of the peace and "limited to that which is reasonably necessary" [1][2][3]. Compensation for damage is payable, with disputes to the Upper Tribunal [1]. Government guidance says "voluntary negotiations with owners and occupiers are encouraged wherever possible" [2].

Section 172 of the Housing and Planning Act 2016, which promoters of some NSIPs have relied on, is available only to an "acquiring authority" — "a person who could be authorised to acquire compulsorily the land" — and even then requires fourteen days' notice and a warrant for any force [4]. Whether a prospective DCO applicant that holds no compulsory powers falls within that definition is contested and has not been decided by a court in those terms. **The Inspectorate's published position, in its 2017 guidance and restated in section 51 advice on another project in 2025, is that "in the case of a prospective DCO, the policy intention is that the power of entry in s53 of the Planning Act 2008 should be used"**, and that the Inspectorate "is not responsible for requests made under s172" [5]. The record on this project points both ways: the Inspectorate's own advice log records that on 15 December 2025 it "advised that if there were issues with gaining land access for the surveys, the applicant could utilise section 172 of the Housing and Planning Act" [6]; in August 2026, answering a correspondent, it identified its advice on another project as "an up-to-date reflection of the Inspectorate's position" on survey powers and stated that **"it is for the applicant to ensure they have shown regard to all advice given on this project specifically when they submit their development consent order application"** [6]. Section 51 advice is, by statute, something the Inspectorate must take into account at acceptance (Section 17). **Wilfully obstructing a lawfully exercised section 53 entry is a criminal offence; declining a voluntary licence and putting the applicant to the statutory route is not.**

Rights over land, and compulsory acquisition

A DCO may authorise the compulsory acquisition of land or of rights over it, and temporary possession, but only if the Secretary of State is satisfied that the land "is required for the development", "is required to facilitate or is incidental to" it, or is replacement land, and "that there is a compelling case in the public interest for the land to be acquired compulsorily" [7]. The Government's guidance adds that the applicant "should be able to demonstrate to the satisfaction of the Secretary of State that all reasonable alternatives to compulsory acquisition (including modifications to the scheme) have been explored"; "must have a clear idea of how they intend to use

the land"; must show "a reasonable prospect of the requisite funds"; and "should seek to acquire land by negotiation wherever practicable. As a general rule, authority to acquire land compulsorily should only be sought … if attempts to acquire by agreement fail" [8]. The 2026 pre-application guidance restates the test for the new regime: applicants "must be able to demonstrate that: i. there is a compelling case in the public interest for the land to be acquired … and ii. they have taken reasonable measures to engage with and seek to agree acquisition of the land through voluntary agreement" [2]; it expects them to "act with sensitivity", to share "an indication, where possible, of the rights which the applicant will be seeking over land", and to keep "a Land and Rights Negotiation Tracker" [2].

Two documents carry the case. The **Book of Reference** must identify every owner, occupier and other interest "following diligent inquiry", and the Inspectorate has stated on this project that it expects land interests to be kept under review and the Book updated, including during examination [6]; an interest the applicant has not identified is an interest whose owner has not been notified, served or heard. The **Funding Statement** must show that "if it were to grant the compulsory acquisition powers requested, the applicant would be able to pay the compensation necessary" [9] — a point that connects to the unpublished cost split discussed in Section 10 and to the applicant's funding position in Section 13.

An "affected person" — anyone whose name has been given to the Secretary of State as having an interest in land to be acquired — may require a compulsory acquisition hearing simply by notifying the Inspectorate by the deadline: "if the Secretary of State receives notification from at least one affected person before the deadline, the Examining authority must cause a compulsory acquisition hearing to be held" [10]. The Examining Authority tests the section 122 case parcel by parcel; the Viking examination records the test it applied — "The Application site has been appropriately selected; All reasonable alternatives to CA have been explored … there is a clear need for all the land included in the BoR" [11] — and records route changes made during examination "following negotiations with the relevant landowners" [11].

Compensation

Compensation arises only if powers are authorised and exercised, under the compensation code as applied by the Order: depreciation in the value of the land over which rights are taken, severance and injurious affection, disturbance and crop loss, with temporary possession compensated separately and depreciation from the use of above-ground installations claimable under Part 1 of the Land Compensation Act 1973 after a year of use. Section 8 sets out the code, the published gas-industry payment schedule that is the only UK benchmark, the easement terms operators impose, and the narrow statutory blight regime — under which no blight notice can be served in respect of the present corridor. Reasonable professional fees in pursuing a statutory claim are generally recoverable; fees incurred in negotiating a voluntary licence are not, unless the licence provides for them. Compensation for survey damage under section 53 is a separate and much narrower head.

Coordination

Owners and occupiers along a linear scheme commonly coordinate: shared professional advice, consistent positions on licence terms and on the information required before agreeing anything, collective correspondence, and a common record of the applicant's engagement for the examination. A parish council that owns or occupies land in the corridor faces the same decisions as a private owner. Wirral Council's officers, advising their committee on a licence request in September 2026 (which the committee is reported to have refused unanimously — Table 19.1), reported both that the applicant "thus have a right to enter relevant Council land pursuant to section 172" and that from 24 July 2026 it may enter under section 53 after notice (Appendix G.2) [12]; the section 172 statement reflects the applicant's position and is open to the contest described above.

20.3 What is uncertain, contested or not yet disclosed

- **The applicant's easement width, terms and compensation schedule** — not published (Section 8).

- **Whether section 172 is available to the applicant at all** — contested; the Inspectorate's published policy favours section 53, while its own advice log on this project records section 172 being mentioned to the applicant as an option.
- **Whether the blight provisions extend to rights-only acquisition** — unresolved (Section 8).

20.4 Questions the reader may wish to put

To the applicant: Will it confirm that it will use section 53, and not section 172, for any statutory survey access on this project? Will it publish its proposed easement terms and compensation schedule before Phase 2? Will its Land and Rights Negotiation Tracker be filed with the application? Will it publish a plain statement of the statutory powers it intends to rely on for survey access?

To the parish council: Does the council own or occupy any land in the corridor, and has it been approached? Has it advised residents where to find independent guidance before signing a licence or returning a questionnaire?

20.5 References

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2. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on preparing an application — Part 1: Pre-application steps*, 3 July 2026, paragraphs 5.24–5.27 and 6.11–6.14. https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-1-pre-application-steps
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Section 21 — Making an effective representation: framework, not sentiment

21.1 Why this matters locally

The examination of a project of this length is likely to receive a large number of representations. The Examining Authority reads every one, but those that say only that the pipeline is unwanted, unsafe or unnecessary, in terms the decision-maker is not permitted to act on, do not affect the outcome. The Secretary of State must decide "in accordance with" a National Policy Statement that treats the need for this infrastructure as settled and expects consent "in all but the most exceptional cases" once its requirements are met; a representation that argues against carbon capture as a policy, or asserts danger without engaging the safety regime, is arguing with the wrong body about the wrong question. What the framework does leave open is substantial — the safety exception to the presumption, alternatives, design, the National Park, agricultural land, the compulsory acquisition tests, and the precise terms of the Order — and a representation built on those, with evidence, is the kind that examinations act on. This section sets out the framework, what the Examining Authorities on the two most recent CO_2 pipeline examinations did with objections, the mechanics and deadlines, and the errors that waste effort.

21.2 What is established

What the decision-maker may weigh

The statutory question is section 104: the application must be decided "in accordance with any relevant national policy statement" unless one of the exceptions applies, of which the general one is that "the adverse impact of the proposed development would outweigh its benefits"; and the Secretary of State must have regard to local impact reports and to "any other matters which the Secretary of State thinks are both important and relevant" [1]. A relevant representation may not contain "material about the merits of policy set out in a national policy statement", nor "material about compensation for compulsory acquisition", nor anything "vexatious or frivolous" [2]. EN-1 then sets the weights. The need for CCS infrastructure is "urgent" and "substantial weight should be given to this need"; "the Secretary of State is not required to consider separately the specific contribution of any individual project to satisfying the need" [3]. For critical national priority infrastructure — which this is — "it is likely that the need case will outweigh the residual effects not capable of being addressed by application of the mitigation hierarchy, in all but the most exceptional cases" [3].

That is the presumption. What it leaves open is set out in EN-1 itself, and Table 21.1 lists the grounds on which a representation can engage the decision as the policy frames it.

Table 21.1 — Grounds on which the policy framework permits an application to be tested

Ground	The policy or legal test	Where this briefing sets out the evidence
Human health and public safety	The CNP presumption "does not apply to residual impacts which present an unacceptable risk to, or interference with, human health and public safety" [3]; "applicants should consult with the HSE on matters relating to safety" and the Secretary of State "should be satisfied that a safety assessment has been prepared, where required" [3]; the ES must address major accidents (EIA Regulations, Schedule 4, paragraph 8) [4]	Sections 5–8

Ground	The policy or legal test	Where this briefing sets out the evidence
Alternatives	The ES must describe “the reasonable alternatives … studied by the developer” and “the main reasons for the option chosen” [4][5]; alternatives must be considered where compulsory acquisition is sought [6]; EN-1 section 4.3 governs the weight (Section 22)	Sections 10–13, 22
Good design	“Applicants must demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected” [3]	Sections 4, 22
The National Park	“Great weight” to conservation of landscape and scenic beauty; consent “in exceptional circumstances”, with assessment of need, of “the cost of, and scope for, developing all or part of the development elsewhere outside the designated area or meeting the need for it in some other way”, and of detriment [3]; for CNP infrastructure the Secretary of State “will take as a starting point” that the exceptional-circumstances test is met [3]	Section 23
Agricultural land and soils	“The Secretary of State should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification” [3]	Sections 8, 23
Irreplaceable habitats and protected sites	The CNP presumption does not apply to “irreplaceable habitats” [3]; the Habitats Regulations test applies to European and (from May 2026) Ramsar sites [7]	Section 23
Compulsory acquisition	“Compelling case in the public interest”; “all reasonable alternatives to compulsory acquisition (including modifications to the scheme) have been explored”; acquisition by agreement attempted; funding	Sections 8, 20

Ground	The policy or legal test	Where this briefing sets out the evidence
	demonstrated [6][8]	
The terms of the Order	Requirements “should be precise, enforceable, necessary, relevant to the development, relevant to planning and reasonable” [9]; protective provisions; the discharge and enforcement machinery	Section 23
Cumulative effects	The ES must assess “the cumulation of effects with other existing and/or approved projects” [4]; the Inspectorate has required the offshore elements and Welsh projects to be included [10]	Sections 13, 23

Two grounds people reach for are not on the list. Opposition to carbon capture and storage as a policy is “material about the merits of policy set out in a national policy statement” and is excluded by statute from a relevant representation [2]. And the quality of the applicant’s consultation is, since 24 July 2026, “not a consideration in the assessment of a DCO application” [11] — though the facts of non-engagement remain relevant where the policy makes them so: to the compulsory acquisition case (acquisition by agreement attempted?), to the alternatives case (were alternatives shared and tested?), and to the weight the Examining Authority gives the applicant’s evidence.

What the last two CO_2 pipeline examinations did

The HyNet examination (2023) received 83 relevant representations; Viking (2024) received 121 [12] [13]. The Viking Examining Authority’s report shows how the framework operated. On objections to the principle of carbon capture: “Whilst acknowledging the strength of feeling and considerable efforts of IPs to gather and submit evidence into the Examination in these regards, the ExA notes the overarching critical national priority for this type of CCS infrastructure … Given the strong policy emphasis for CCS deployment, the ExA did not find it necessary to advance these matters into the Examination and they are therefore not considered further in this report” [13]. On alternatives: “No IPs alleged a conflict with the NPSs, nor any deficiencies in the Environmental Statement (ES) with regards to consideration of alternatives”; route objections “are more appropriately dealt with in the respective planning chapters of this Report since they do not directly relate to the Applicant’s presentation of strategic alternatives”; and “the ExA is satisfied that a comprehensive process has been followed in determining the scope and nature of the Proposed Development” [13]. **On Viking, no interested party challenged the alternatives assessment against the regulations or the policy, and the Examining Authority accepted it; on this project, the alternatives question is live before the application exists, and whether it is examined depends on someone putting it in the right form.** The HyNet Examining Authority, by contrast, exercised its discretion to accept a submission from a member of the public who was not an interested party and “who was seeking to promote an alternative route” [12] — alternatives can be brought in, but late and on sufferance. On the two examinations together, the Viking Examining Authority’s compulsory acquisition conclusion states the standard: “The Application site has been appropriately selected; All reasonable alternatives to CA have been explored” [14].

The mechanics

- **Registration.** When the application is accepted the applicant publicises it and a registration period opens of at least 30 days for EIA development [15]. A relevant representation must be made on the Inspectorate’s registration form and “must include … the principal submissions and where practicable, the full particulars of the case which the person proposes to make” [16]. The Inspectorate’s advice: it “should include full details of the issues that the person or organisation want to be considered, including evidence where necessary”, and “should not

just say ‘we support’ or ‘we object’ to the project, and should not just be an outline of the issues” [17]. **“The deadline cannot be extended”** [17]. Anyone who registers correctly is an interested party; a host local authority is one automatically [18].

- **The principal issues.** Within 21 days of the registration deadline the Examining Authority makes its “initial assessment of the principal issues” and, at the preliminary meeting, sets the timetable [19]. Relevant representations are the raw material for that assessment: an issue that no one has raised, with evidence, by the registration deadline may not be examined at all.
- **Written representations** must “identify … those parts of the application or specified matters with which they agree and those parts with which they do not agree, and must state the reasons for such disagreement” [20]; the Examining Authority “may disregard any written representations … received after the date … specified for their receipt” [20]. Written questions from the Examining Authority are addressed to named parties with deadlines.
- **Hearings.** Issue-specific hearings are held where the Examining Authority considers them “necessary … to ensure adequate examination of the issue, or that an interested party has a fair chance to put the party’s case”; a compulsory acquisition hearing must be held if an affected person asks; an open-floor hearing must be held if any interested party asks by the deadline [21]. Hearings are for putting points the written material cannot; they are not a substitute for it.
- **Groups.** “Repeated identical submissions can be unhelpful”; those with the same concerns should “form a group and make one submission” [22]. A parish council or residents’ group that files one evidenced representation, and whose members each register briefly and adopt it, gets the weight of the evidence and the standing of the numbers.
- **Costs.** A new power allows the Examining Authority to make orders about the costs of interested parties and those who make written representations [23]. No guidance has been issued; until it is, the prudent assumption is that unreasonable conduct — not honest disagreement — is what it is aimed at.
- **Before the application.** Correspondence with the Inspectorate under section 51 is published and must be taken into account at acceptance; it is the one way to put a point on the statutory record now (Section 17).

Common errors

They are the same on every examination: registering late or not at all; writing “I object” without particulars; arguing the merits of the policy; asserting a danger without engaging the regulator’s regime (Section 7) or the hazard evidence (Sections 5–6); raising an alternative for the first time at a hearing, without evidence, so that “the Secretary of State may place the onus on the person proposing the alternative to provide the evidence for its suitability” [5]; relying on sources that do not survive scrutiny; and treating the number of signatures as the argument. The reverse of each is the method: register in time; say which document, which paragraph, which test, and why it is not met; bring evidence the Examining Authority can check; put alternatives on the record before the application; and let the local impact report and the group submission carry the weight of numbers.

21.3 What is uncertain, contested or not yet disclosed

- **The registration form and period** for this application — set at acceptance, not before.
- **How the Examining Authority will use the costs power** (s.96B) — no guidance yet.
- **Whether the applicant will file a key issues tracker** — if it does, the representation should engage with it point by point.

21.4 Questions the reader may wish to put

To the parish council or residents’ group: Who will prepare the representation, on which of the Table 21.1 grounds, with what evidence, and by when? Which documents in the application will be read first (the alternatives chapter; the major accidents chapter; the Statement of Reasons; the requirements schedule; the Book of Reference)? Will the group ask the host authority to include its evidence in the local impact report?

To the host authority: Will the local impact report address the Table 21.1 grounds as they bear on the authority's area, and will a draft be shared with parish councils before the registration deadline?

21.5 References

1. Planning Act 2008, section 104. https://www.legislation.gov.uk/ukpga/2008/29/section/104
2. Planning Act 2008, section 102(4). https://www.legislation.gov.uk/ukpga/2008/29/section/102
3. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (EN-1)*, 2025 revision, paragraphs 3.2.8–3.2.10, 4.1.3, 4.1.7, 4.2.28, 4.2.30, 4.7.7, 4.13.5, 4.13.8, 5.10.32, 5.11.34. https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage
4. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, SI 2017/572, regulation 14(2)(d) and Schedule 4, paragraphs 2, 5 and 8. https://www.legislation.gov.uk/uksi/2017/572/schedule/4
5. EN-1 (2025), paragraphs 4.3.9–4.3.29 (alternatives).
6. Department for Communities and Local Government, *Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land*, September 2013, paragraphs 8, 9, 13 and 25. https://www.gov.uk/government/publications/planning-act-2008-procedures-for-the-compulsory-acquisition-of-land
7. The Conservation of Habitats and Species Regulations 2017, SI 2017/1012, regulation 63; Planning and Infrastructure Act 2025, Schedule 5. https://www.legislation.gov.uk/uksi/2017/1012/regulation/63
8. Planning Act 2008, section 122. https://www.legislation.gov.uk/ukpga/2008/29/section/122
9. Planning Inspectorate, *Advice Note Fifteen: Drafting Development Consent Orders*, updated 24 March 2025, paragraph 15.2. https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-fifteen-drafting-development-consent-orders
10. Planning Inspectorate, *Scoping Opinion*, EN0710001-000018, 19 February 2026, IDs 3.15.2–3.15.3.
11. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on the acceptance stage of an application*, 3 July 2026, paragraph 2.4. https://www.gov.uk/guidance/planning-act-2008-guidance-on-the-acceptance-stage-of-an-application
12. Examining Authority's Recommendation Report, HyNet North West Carbon Dioxide Pipeline (EN070007), 20 December 2023, paragraphs 1.4.24, 1.4.43, 4.9.1 and 5.3.1. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN070007
13. Examining Authority's Recommendation Report, Viking CCS Carbon Dioxide Pipeline (EN070008), 5 December 2024, paragraphs 1.4.3, 3.2.35–3.2.38, 3.2.53–3.2.54, 3.2.72, 3.2.78–3.2.79. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN070008
14. Secretary of State for Energy Security and Net Zero, decision letter, Viking CCS Carbon Dioxide Pipeline, 9 April 2025, paragraph 6.6.
15. Planning Act 2008, section 56; The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, regulation 9(4). https://www.legislation.gov.uk/uksi/2009/2264/regulation/9
16. The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015, SI 2015/462, regulation 4. https://www.legislation.gov.uk/uksi/2015/462/regulation/4
17. Planning Inspectorate, *How to register to have your say and make a relevant representation*, updated 30 July 2026. https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-how-to-register-to-have-your-say-and-make-a-relevant-representation
18. Planning Act 2008, section 102(1). https://www.legislation.gov.uk/ukpga/2008/29/section/102
19. Planning Act 2008, section 88; The Infrastructure Planning (Examination Procedure) Rules 2010, SI 2010/103, rules 5, 6 and 8. https://www.legislation.gov.uk/uksi/2010/103
20. The Infrastructure Planning (Examination Procedure) Rules 2010, SI 2010/103, rule 10(4) and 10(8). https://www.legislation.gov.uk/uksi/2010/103/rule/10/made

21. Planning Act 2008, sections 91, 92 and 93. https://www.legislation.gov.uk/ukpga/2008/29/section/93
22. Planning Inspectorate, *Advice for submitting representations or comments*, updated 25 August 2026. https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-for-submitting-representations-or-comments
23. Planning Act 2008, section 96B (inserted by Planning and Infrastructure Act 2025, section 10; in force 18 February 2026). https://www.legislation.gov.uk/ukpga/2025/34/section/10

Section 22 — Route selection, alternatives and what the applicant must show

22.1 Why this matters locally

Most of the councils along the route that have taken a position have said, in different words, that the corridor should be somewhere else and that the applicant has not shown why it is here (Section 19). That contention has effect at examination only if it is put in the form the framework recognises. The law does not require the applicant to choose the best route; it requires it to describe the reasonable alternatives it studied and its reasons, to justify compulsory acquisition against all reasonable alternatives including modifications to the scheme, and — where a policy test such as the National Park's exceptional-circumstances test applies — to show the scope for meeting the need elsewhere or in some other way. The applicant's own published record refers to alternatives that it considered but has not published. This section sets out the legal and policy requirements as they now stand, what is known about the options the applicant considered, how the alternatives developed in Part C fit the tests, and the discipline that decides whether an alternative is examined or ignored.

22.2 What is established

The requirements

Four sources impose duties, and they differ in strength.

- **The EIA Regulations** (mandatory). The Environmental Statement must contain "a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment"; Schedule 4 adds that the description covers alternatives "in terms of development design, technology, location, size and scale" and must include "a comparison of the environmental effects" [1]. The Government's Part 2 guidance states: "Inadequate consideration of alternatives can be grounds for legal challenge" [2]. Where the Examining Authority concludes the statement lacks information needed "for reaching a reasoned conclusion", it must say so in writing and "suspend consideration of the application" until the information is provided and publicised [3].
- **EN-1** (policy; governs weight). "This NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective" [4]. But "applicants are obliged to include information about the reasonable alternatives they have studied in their ES. 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" [4]. The weighing principles: consideration "should be carried out in a proportionate manner"; "only alternatives that can meet the objectives of the proposed development need to be considered"; the Secretary of State should be guided by "whether there is a realistic prospect of the alternative delivering the same infrastructure capacity … in the same timescale"; and "should not refuse an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site" [4]. Two paragraphs decide the fate of alternatives raised by objectors: "alternatives not among the main alternatives studied by the applicant (as reflected in the ES) should only be considered to the extent that the Secretary of State thinks they are both important and relevant"; and "where an alternative is first put forward by a third party after an application has been made, the Secretary of State may place the onus on the person proposing the alternative to provide the evidence for its suitability … and the Secretary of State should not necessarily expect the applicant to have assessed it" [4]. "Alternative proposals which are vague or immature can be excluded" [4].
- **Compulsory acquisition** (statutory test plus guidance). The "compelling case in the public interest" under section 122 is tested against guidance that the applicant "should be able to demonstrate … that all reasonable alternatives to compulsory acquisition (including modifications to the scheme) have been explored" [5][6]. The 2026 pre-application guidance

lists compulsory acquisition among the “specific circumstances where applicants are required to demonstrate the consideration of alternatives” [7]. This is the route by which a landowner’s alternative — a different alignment, a narrower strip, a different valve site — reaches the examination with statutory force behind it.

- **Designated landscapes and habitats.** Consent within a National Park requires “exceptional circumstances” and an assessment of “the cost of, and scope for, developing all or part of the development elsewhere outside the designated area or meeting the need for it in some other way, taking account of the policy on alternatives” [4]; the Habitats Regulations require alternative solutions to be considered before any derogation [8].

Consultation law has receded. Until 24 July 2026 the Supreme Court’s principle in *Moseley* — that “meaningful public participation … requires that the consultees should be provided not only with information about the draft scheme, but also with an outline of the realistic alternatives, and an indication of the main reasons for the authority’s adoption of the draft scheme” [9] — attached to a statutory duty to consult. That duty has been repealed (Section 17). The guidance the applicant must have regard to encourages “sharing information about the alternatives and options being considered (where relevant)” and states that “each DCO application is examined on its merits, not whether it is the best of a range of possible projects”, while listing the circumstances — EIA, habitats, NPS policy, compulsory acquisition — in which alternatives must be demonstrated [7]. The alternatives argument is therefore now an examination argument under the four sources above, not an acceptance or consultation argument.

What is known about the options the applicant considered

The record, in date order:

- **July 2024.** The Inspectorate’s meeting note records that the applicant used a GIS routing tool to identify least-constrained corridors, followed by expert review, sensitivity testing, site visits and a constructability review; that the western corridor had been resolved; and that two competing eastern corridor options remained, both passing the Lostock energy-from-waste plant near Northwich, to which the pipeline “can be connected … at a future date” [10]. Neither eastern option, nor the criteria, nor the comparison has been published.
- **January–February 2026.** Phase 1 consultation presented a single 300-metre corridor. The applicant’s factsheet on route choice describes three strategic options — relocating the works to the coast, road tankers, and a pipeline — and does not consider rail transport of the captured CO_2 (Sections 10–12) [11]. Consultees’ responses on alternatives included Whaley Bridge Town Council’s request for “an alternative, more direct, route … in the upper Goyt Valley” [12]; Gawsworth Parish Council’s “southern alternatives” for the Cauldon feeder [13]; and, at scoping, Natural England’s request that the assessment cover “options for non-piped transportation methods on land and at sea (ship, rail, road)” and alternative storage sites, and its observation that “the selection of the two Coastal Above Ground Infrastructure (AGI) options is not referenced in Section 3.4” of the Scoping Report [14]. The Inspectorate’s Scoping Opinion requires the ES to “explain how the design of the proposed development has been evolved in response to environmental constraints and feedback from relevant consultation bodies” and to “demonstrate how the final design has applied the mitigation hierarchy” [14].
- **30 April 2026.** Cheshire East’s officers, as reported, advised that “the pipeline corridor should follow the proposed option to the north of Middlewich which would appear to present significantly less constraints and is the most viable option to take forward”, with the southern options facing “significant strategic constraints” [15]. Wirral Council’s scoping response asked that the HyNet hydrogen pipeline route “be considered through optioneering/micro-routing process” so that corridors are aligned [14].
- **July 2026.** The applicant’s land agents were telling landowners in the corridor that it “remains under review and development” and that the applicant was “not yet able to confirm whether any specific land parcels will or will not be affected” [16].
- **Storage and landfall.** The choice of the Morecambe store, and with it a north-Wirral landfall rather than Barrow or the Dee, has not been justified in any published document; Natural England noted that only HyNet holds an Irish Sea storage permit and asked for “consideration of shipped transport from a port location to offshore stores” [14] (Section 13).

How the Part C alternatives fit the tests

EN-1's test is whether an alternative "can meet the objectives of the proposed development" and deliver "the same infrastructure capacity … in the same timescale" [4]. The options set out in Part C fall on different sides of it, and a representation should say which:

- **A different corridor to the same store** — the northern Middlewich option, a southern Cauldon feeder, existing industrial corridors, a Goyt Valley alignment, a Dee or Barrow landfall — meets the objective by definition. These are alternatives "studied by the applicant" (the two eastern options at least) and must be in the ES with reasons; where they were not studied, the third-party rule applies and the proposer must bring the evidence.
- **Excluding Cauldon** — a modification to the scheme that removes the southern feeder, reduces the tonnage by a fifth to a quarter, and shortens the pipeline — is an alternative "to compulsory acquisition (including modifications to the scheme)" [6] for every owner on that feeder, and a design alternative for the ES; it does not deliver the same capacity, so under EN-1 it bears on the compulsory acquisition case and the mitigation hierarchy rather than on need.
- **Rail or ship for the whole tonnage** meets the objective (same capacity, to a store) if it can meet the timescale; the evidence in Sections 11–12 is that it is unprecedented at this scale and more expensive at full utilisation, but that the published comparison is undiscounted and assumes full use, and that Natural England has asked for it to be assessed. It belongs in the ES as an alternative "in terms of … technology" [1].
- **Partial capture for re-use** (Section 10) does not deliver the same capacity to a store, so it is not an alternative EN-1 requires the Secretary of State to weigh against need. Its purchase is elsewhere: on the compulsory acquisition test for land whose only purpose is to carry tonnage that could be captured and used without a pipeline; on the National Park test's "meeting the need for it in some other way"; and on the applicant's obligation to describe the reasonable alternatives it studied, which its published material to date does not do.

The alternatives argument is won or lost on timing and evidence. An alternative that is in the applicant's own record (the July 2024 eastern options; the Cheshire East northern option; Natural England's modal and storage request) can be examined as a deficiency in the ES if the ES does not deal with it. An alternative first raised by an objector after the application will be considered only if "important and relevant", with the burden on the objector. The consequence for a council or parish is that any alternative it wishes examined should be put to the applicant and to the Inspectorate, in writing and with such evidence as it can muster, before September 2027 — mapped, described, and related to the tests above — so that it is on the record as an alternative the applicant was asked to study.

22.3 What is uncertain, contested or not yet disclosed

- **The two eastern corridor options of July 2024** — alignments, criteria and comparison unpublished.
- **The strategic options appraisal** — referred to but not published.
- **The landfall and storage choice** — unjustified on the public record.
- **Whether the applicant's Phase 2 material will present alternatives** — the guidance encourages it; nothing requires it.
- **The current corridor** — stated by the applicant in July 2026 to remain under review.

22.4 Questions the reader may wish to put

To the applicant (before Phase 2): Will it publish the strategic options appraisal and the comparison of the two eastern corridor options recorded in July 2024? Will its Phase 2 material show the alternatives considered and the reasons for rejection, as the guidance encourages? Will the ES assess: the northern Middlewich option; a southern Cauldon feeder; exclusion of Cauldon; a Barrow or Dee landfall; ship from an existing port; rail; and partial capture for re-use — and, if any is excluded, on what ground under EN-1 section 4.3?

To the Inspectorate (section 51): A written request that the Inspectorate note, for acceptance and examination purposes, the alternatives put to the applicant and the applicant's response.

To the host authority: Will the local impact report record the alternatives the authority itself has identified and the applicant's response to them?

22.5 References

1. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, SI 2017/572, regulation 14(2)(d) and Schedule 4, paragraph 2. https://www.legislation.gov.uk/uksi/2017/572/regulation/14
2. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on preparing an application — Part 2: Application contents*, 3 July 2026, paragraph 4.7. https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-2-application-contents
3. SI 2017/572, regulation 20. https://www.legislation.gov.uk/uksi/2017/572/regulation/20
4. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (EN-1)*, 2025 revision, paragraphs 4.3.9, 4.3.15, 4.3.17, 4.3.22–4.3.29 and 5.10.32. https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage
5. Planning Act 2008, section 122. https://www.legislation.gov.uk/ukpga/2008/29/section/122
6. Department for Communities and Local Government, *Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land*, September 2013, paragraph 8. https://www.gov.uk/government/publications/planning-act-2008-procedures-for-the-compulsory-acquisition-of-land
7. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on preparing an application — Part 1: Pre-application steps*, 3 July 2026, paragraphs 3.8 and 5.19–5.20. https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-1-pre-application-steps
8. The Conservation of Habitats and Species Regulations 2017, SI 2017/1012, regulations 63–64. https://www.legislation.gov.uk/uksi/2017/1012/regulation/64
9. *R (Moseley) v London Borough of Haringey* [2014] UKSC 56, paragraphs 25–28 (Lord Wilson) and 39 (Lord Reed). https://supremecourt.uk/uploads/uksc_2013_0116_judgment_7fddfefb4f.pdf
10. Planning Inspectorate, *Peak Cluster CCS Pipeline: Project Update Meeting Note*, EN0710001-000004, 1 July 2024. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001/documents
11. Peak Cluster, *Factsheet 4: Route choice and alternatives to CCS*, March 2026 (company statement).
12. Whaley Bridge Town Council, late scoping response, EN0710001-000057, 18 February 2026.
13. Gawsworth Parish Council, resolution of 3 March 2026 (as reproduced on a community website). https://www.gawsworthlife.co.uk/parish-council-objects-to-peak-cluster-proposals
14. Planning Inspectorate, *Scoping Opinion: Proposed Peak Cluster CCS Pipeline*, EN0710001-000018, 19 February 2026, ID 2.2.1 and Appendix 2 (Natural England response: "General approach" and chapter 19 comments; section 6.9 comments; Wirral Council response, "Consideration of Alternatives").
15. Cheshire East Council, Corporate Policy Committee, 30 April 2026, report "Peak Cluster — Update", officer wording as reported by Nantwich News, 29 April 2026 (local press). https://thenantwichnews.co.uk/2026/04/29/cheshire-east-officers-issue-warning-over-peak-cluster-carbon-dioxide-scheme/
16. Correspondence from the applicant's land agents to landowners in the corridor, July 2026 (not on the public record; copies seen for this briefing).

Section 23 — Environmental and community effects to be assessed, and the controls after consent

23.1 Why this matters locally

Most of what a parish will actually experience from this project — a working corridor across its fields for a season or two, closed footpaths, lorries on lanes not built for them, a fenced compound with a vent stack where there was a field, a strip through a wood or a hedgerow that will not be replanted over the pipe — is not a matter of "safety" in the sense of Part B, nor of "need" in the sense of EN-1. It is an environmental or community effect, and the Environmental Statement is where it will be described, measured and classified as significant or not. The scope of that Statement has already been fixed, in outline, by the Inspectorate's Scoping Opinion of February 2026. What the Statement finds will be tested at examination; what the Order then requires will be discharged and enforced, after consent, by the local planning authority. This section sets out the three things a reader needs in order to engage with that sequence: what the Statement must cover and what the Inspectorate has already told the applicant it must not leave out; what, if anything, a host community is entitled to by way of benefit; and how the controls work once consent is granted — including the fact that they are controls in the hands of the undertaker and the planning authority, not of the parish.

23.2 What is established

The scope of the Environmental Statement

The application must be accompanied by an Environmental Statement, "prepared by competent experts", which includes "the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment" [1]. Schedule 4 to the 2017 Regulations lists what it must contain: a description of the development; the reasonable alternatives studied; the baseline; the factors likely to be significantly affected; the likely significant effects, including "the cumulation of effects with other existing and/or approved projects" and "the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)"; the forecasting methods; mitigation and monitoring; the vulnerability of the project to major accidents and disasters; and a non-technical summary [2]. If the Examining Authority considers the Statement deficient it "must" say so in writing, with reasons, and "suspend consideration of the application" until the further information is provided and publicised [3].

The applicant asked for a Scoping Opinion in January 2026 and the Inspectorate gave one on 19 February 2026, after consulting the prescribed bodies and host authorities; the responses are appended to it and run to several hundred pages [4]. The Opinion is organised by topic — air quality, biodiversity, landscape and visual, traffic and movement, noise and vibration, historic environment, water environment and flood risk, marine environment, geology and ground conditions, socio-economics, human health, materials and waste, climate change, major accidents and disasters, and cumulative effects — and for each records what the applicant proposed to leave out and whether the Inspectorate agreed [4]. It is the single most useful public document for a reader who wants to know what will and will not be assessed, and the paragraphs below draw on it.

The receptors along the corridor

Landscape and the National Park. The applicant proposed to scope out landscape effects on the Peak District National Park from most elements of the scheme on the basis that "based upon the distance from the PDNP and it's setting it is anticipated that significant effects are unlikely to occur"; the Inspectorate replied that "Peak Cluster Pipeline (East) is located within the Peak District National Park. As such, the Inspectorate does not agree to scope out impacts from this element" [4, ID 3.3.15]. That matters because of the policy. EN-1 says that National Parks "have been confirmed by the government as having the highest status of protection in relation to landscape and natural beauty" and that "the conservation and enhancement of the landscape and scenic beauty should be given great weight"; the Secretary of State "may grant development consent in these areas in exceptional circumstances", and the assessment "should include" the need, "the cost of, and scope for, developing all or part of the development elsewhere outside the designated area or meeting the

need for it in some other way", and "any detrimental effect on the environment, the landscape and recreational opportunities" [5, paras 5.10.7 and 5.10.32]. The same policy then provides that for critical national priority infrastructure the Secretary of State "will take as a starting point" that the exceptional-circumstances test is met [5, para 4.2.30]. **The eastern section of the pipeline lies within the National Park; the policy gives the Park's landscape "great weight" and requires "exceptional circumstances", but treats those circumstances as presumptively made out for CCS pipelines — so the practical question at examination will be the "scope for … meeting the need for it in some other way", which is the alternatives question of Section 22.** The National Park Authority itself must, under the 1949 Act as amended in 2023, "seek to further" the Park's purposes in exercising its functions, and every other public body acting in the Park is under the same duty [6]; the Authority's own risk register records the risk of "harm to Special Quality features (in particular, landscape character, archaeology, wildlife/nature and farming economy)" alongside "the potential benefit of the pipeline in climate change mitigation" (Section 19).

The working corridor and what is permanent. The Inspectorate found the applicant's own description inconsistent: "Paragraph 3.3.4 of the Scoping Report states that the typical construction width of the corridor is 30 to 40m and that additional width may be needed at certain crossings. Paragraph 3.2.136 of the Scoping Report states that the construction corridor width is likely to be between 50m and 100m wide." It required the Statement to "clearly explain the working corridor width and be consistent on this description throughout", and added that it "should address the potential for permanent landscape effects due to any planting restrictions introduced for any easement required" [4, ID 3.3.27]. A buried pipeline is described as temporary in its effects because the trench is backfilled and the land reinstated; but the easement over it will carry a permanent restriction on deep-rooted planting and on building, so that a hedgerow, tree belt or wood removed from the strip is not replaced on it. **The landscape effect of the pipeline is not confined to the construction period: the easement strip, typically kept clear of trees for the life of the pipeline, is a permanent change, and the Inspectorate has told the applicant to assess it as such.**

Above-ground installations. The Scoping Report gives a footprint of "approximately 1,500m² to 2,500m²" for a block valve station and "5,000m² to 15,000m²" for an above-ground installation, without heights, and notes that new substations may be needed; the Inspectorate required the Statement to give "maximum heights, design parameters and limits of deviation" for each built element [4, ID 2.1.2]. It recorded that "the exact locations of permanent and temporary AGI's and BVS are not yet known" and required the Statement "to finalise the locations of all project components where possible" and to assess "the worst case scenario from the siting of AGI's and BSVs" for every topic [4, ID 2.1.4]. On the socio-economic topic the applicant proposed to scope out effects on "affected communities, community facilities, visitor attractions, and businesses" on the basis that the scheme "has been designed to avoid significant adverse effects on these receptors"; the Inspectorate replied that "the design of the proposed development and location of elements such as the AGI and BVSs have not yet been finalised. In light of this, it is unclear how the avoidance of significant adverse effects upon these receptors has been assured", and refused to scope the matter out [4, ID 3.10.3]. The sites of the valve stations, which are the elements most visible and (Section 7) most relevant to release scenarios, are the least settled part of the scheme on the public record.

Biodiversity and designated sites. The scoping boundary crosses or lies close to the Dee Estuary Special Area of Conservation and the Mersey Narrows and North Wirral Foreshore Special Protection Area at the western end, and the Peak District Dales Special Area of Conservation and Tunstead and Hope Site of Special Scientific Interest at the eastern end; the applicant's own scoping table appeared to place the Dee Estuary sites outside the boundary, which the Environment Agency asked to be corrected: "This statement is incorrect and the true activity and impact may not be assessed/considered" [4, Appendix 2, Environment Agency]. The Agency's covering letter states: "We do not agree with the scope of the Environmental Impact Assessment (EIA) and would recommend further issues are scoped in to meet the requirements of the EIA regulations" [4, Appendix 2, Environment Agency, 10 February 2026]. Where a project is likely to have a significant effect on a European site the Secretary of State must carry out an appropriate assessment under the Habitats Regulations and may consent only if satisfied that the project will not adversely affect the integrity of the site, or that the derogation tests — no alternative solutions, imperative reasons of overriding public interest, compensatory measures — are met [7]. Since 2026 the same statutory test extends to Ramsar wetlands, of which the Midland Meres and Mosses lie within the study area [8]. The Scoping Report lists "eight areas of ancient woodland as located in the scoping boundary and a

further four as being immediately adjacent", and the Inspectorate required these to be mapped and any others within 2 km identified as the design develops [4, ID 3.2.8]. The Order will, on the Viking precedent, authorise hedgerow removal within the Order limits subject to a duty to "do no unnecessary damage to any tree, shrub or hedgerow" and to pay compensation for loss [9]; Staffordshire County Council's scoping response states that "the removal of hedgerows, hedgerow trees and dry stone walls should be avoided wherever possible", that "removal of these features should be avoided wherever possible through re-routing or by using a suitable trenchless installation technique", and that replacement planting at 3:1 will be required where individual trees are lost [4, Appendix 2, Staffordshire County Council]. A biodiversity net gain requirement was included in the Viking Order [10], and the July 2026 application-contents guidance lists an outline biodiversity net gain plan among the documents to accompany applications from 2 November 2026 [11].

Soils and agricultural land. EN-1 requires applicants to "seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality", and the Secretary of State "should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification" [5, paras 5.11.12 and 5.11.34]. Natural England's scoping response asked for a detailed Agricultural Land Classification survey and for the provisional BMV land take to be given for each element of the scheme, advising that provisional mapping and desk-based assessment "cannot be used to identify and avoid BMV land during detailed design" [4, Appendix 2, Natural England, Table 7]; Wirral Council recorded that "the majority of the proposed pipeline routes through BMV land in Wirral" [4, Appendix 2, Wirral Council]. The Inspectorate separately required the Statement to "assess any potential impacts on farming and movement of livestock from road closures and diversions" [4, ID 2.1.11]. One parish council's scoping response shows the questions at their most concrete: "How will access to working farmland bisected by the working width be provided for farmers?"; "What building/farming restrictions will be in place alongside and above the pipeline?"; "Concerns were expressed as regards the high potential of damage to field and road drains from the works. What checks will be done as regards putting drains back correctly?"; "What recourse will be in place if the work is not done to the satisfaction of the land owners / or problems occur thereafter?" [4, Appendix 2, North Rode Parish Council]. Part D (Sections 14–16) deals with the property and agricultural consequences for individual holdings; the point here is that soil handling, drainage reinstatement, field access and aftercare are matters the Statement must address and that the Order's requirements will control (below).

Water, flood risk and ground. The corridor crosses the River Dane and the other main rivers and ordinary watercourses of the Cheshire plain, the Goyt valley at Whaley Bridge, and the Dee estuary; the Environment Agency will separately permit works in or near main rivers (Section 18). The applicant proposed to scope out fluvial flood risk at the capture facilities during operation while acknowledging that "some facilities are located in flood zones 2 and 3"; the Inspectorate did not agree and required an assessment "where significant effects are likely to occur" [4, ID 3.7.1]. Wirral Council noted that "the proposed landfall AGI location is within the River Birket floodplain (Flood Zone 3)" [4, Appendix 2, Wirral Council]. On ground conditions, the applicant proposed to scope out "leaks and spillages from hazardous materials" for the operational and decommissioning phases; the Inspectorate declined for all phases, "noting comments from Cheshire West and Cheshire [sic] Council in relation to the potential for interaction with Hoole Bank Tar Lagoon", and encouraged the applicant "to discuss this matter further" [4, ID 3.14.74]. The pipeline "crosses multiple coal mining reporting areas" (Section 18).

Historic environment. Scheduled monuments, listed buildings and registered parks lie within the scoping boundary at several points, including within and on the edge of the National Park; the consents that would otherwise be required are subsumed in the Order (Section 18), which places the weight on the Statement's assessment and on the archaeological requirement that the Order will carry [4, section 3.6; 10].

Traffic, noise, rights of way and the construction period. The applicant proposed to scope out decommissioning-phase traffic effects (severance, delay, "fear and intimidation", road-user safety) on the basis that they "will be assessed at the time of decommissioning"; the Inspectorate refused [4, ID 3.4.1]. It drew attention to the Park Authority's request that the assessment consider "capacity of routes into and out of the National Park during peak visitor times" [4, ID 3.4.4]. On rights of way, it agreed that operational severance could be scoped out because "temporary impacts from severance

would only occur during construction and decommissioning", while directing the applicant to Cheshire East's comments on the Middlewood Way [4, ID 3.11.1]. The Order will, on the Viking precedent, allow the undertaker to "temporarily restrict, prevent use of or close" listed rights of way, but not "unless an alternative public right of way is first provided by the undertaker to the reasonable satisfaction of the relevant local highway authority", with the alternative "maintained by the undertaker until the re-opening" [12]. Canals are to be treated as visual receptors and the Canal & River Trust's comments on crossings and bridge loads are appended [4, ID 3.3.26].

Decommissioning. The applicant proposed that a Decommissioning Environmental Management Plan "will be developed at a later date"; the Inspectorate required the Statement to "provide a description of the activities and works (including the anticipated duration) which are likely to be required during decommissioning", to "provide clarification regarding which elements may be removed or left in situ", and noted that "most aspects chapters state the pipeline will be left in situ, however, paragraph 12.5.12 states the 'pipeline would likely remain in situ'" [4, ID 2.1.13]. **On the applicant's own scoping material the pipeline is expected to be left in the ground at the end of its life; the easement, and the restriction on the land above it, would then outlast the project — a permanent impairment of the land, not a temporary one.** Nothing on the public record says whether the easement would be released, the land reinstated and the restriction lifted at decommissioning, or whether the abandoned pipe would remain the undertaker's responsibility; DCO easements are ordinarily acquired as permanent rights and, unless the Order or the easement itself provides for release, they persist. Compensation for the easement is assessed once, at acquisition, on the basis of the rights taken (Section 8); if the pipe is to stay in the ground indefinitely, that is the basis on which the depreciation should be valued. The offshore store's decommissioning is a separate matter, covered in Section 13.

Cumulative effects. The Inspectorate required the Statement to describe "the offshore elements which would connect to the proposed development and explain how the consents would interact", since the Morecambe Net Zero storage project "would be consented separately" [4, ID 3.15.2], and to include projects in Wales "such as those within the Flintshire and Wrexham authority areas" [4, ID 3.15.3]. Wirral Council asked that the HyNet hydrogen pipeline be considered in routeing so that corridors are aligned [4, Appendix 2, Wirral Council]. The interaction of this pipeline with HyNet's CO_2 pipeline, the Protos and Stanlow developments and the HyNet hydrogen network in Cheshire and on the Wirral will be a cumulative-effects question in its own right.

Major accidents, human health and climate. These topics are scoped in; the safety questions are dealt with in Part B and are not repeated here, save to note that the Inspectorate accepted the applicant's reliance on the separate safety regime only "providing that the ES can demonstrate that the regulations and legislation referenced provide adequate mitigation" (Section 18). The climate chapter must assess construction emissions and the net effect of the project; Part C's material on utilisation and re-use bears on what that chapter should compare.

Community benefits

The position can be stated shortly. **There is, at the date of this briefing, no statutory or Government-policy entitlement to community benefit for communities hosting a CO_2 pipeline.** The only statutory scheme is that created by section 27 of the Planning and Infrastructure Act 2025, which allows regulations to give "persons with a specified connection to qualifying premises" financial benefits by reference to proximity to "qualifying works" — and qualifying works must involve "electrical plant or an electric line that (in either case) — (a) is wholly or partly above the ground, and (b) forms or is intended to form part of a transmission system" [13]. The scheme as designed gives households within 500 m of new overhead transmission lines bill discounts of up to £250 a year for ten years, with a community fund guideline of £200,000 per kilometre of overhead line; underground cable is excluded from the direct-benefit scheme [14]. The May 2025 working paper on a wider mandatory scheme for "low carbon energy infrastructure" lists offshore and onshore wind, solar, marine, nuclear, "Power CCUS", hydrogen-to-power and storage; it does not list CO_2 transport pipelines, states that non-energy infrastructure would be out of scope, and has no published Government response [15]. The Government's CCUS Vision of December 2023 contains no provision for host communities [16]. Wirral Council's March 2026 resolutions included a call for a community benefit fund, and the Minister told the Commons in June 2026 that he had "been very clear with developers directly that the project has to take local views into account and offer clear

benefits to local communities" (Section 19) — an expectation of the applicant, not an obligation on it. No community-benefit commitment by the applicant, or by the promoters of the HyNet or Viking CO_2 pipelines, has been located on the public record [17]. Anything offered would be voluntary, would be "legally immaterial to planning decisions" in the Government's own description of such benefits on its consultation page [15], and would not be secured by the Order unless the applicant chose to offer it as a requirement or obligation. Compensation to landowners under the compulsory-purchase code (Section 20) is a different thing and is not a community benefit.

The controls after consent

Requirements. An Order "may impose requirements in connection with the development for which consent is granted", including "requirements corresponding to conditions which could have been imposed on the grant of any permission" and "requirements to obtain the approval of the Secretary of State or any other person" [18]. The Inspectorate's drafting advice says requirements "should therefore be precise, enforceable, necessary, relevant to the development, relevant to planning and reasonable in all other respects", and that "the relevant planning authority … is likely to be the relevant 'person' from which to obtain such approvals" [19]. The Viking CCS pipeline Order of 2025 — the closest precedent — carries twenty-two numbered requirements in its Schedule 2 (the first being interpretation and one, an air weapons range, site-specific): time limits; staging; scheme design; a construction environmental management plan (approved by the relevant planning authority after consulting the Environment Agency and the county council); construction traffic management, with National Highways; highway accesses; surface-water drainage; contaminated land and groundwater; archaeology, in consultation with Historic England; a landscape and ecological management plan; ecological surveys; construction hours; restoration of land; an operational-phase mitigation plan; a decommissioning environmental management plan; written approvals and amendments to approved details; offshore consents; biodiversity net gain; and anticipatory steps [10]. **The construction environmental management plan, the traffic plan, the construction hours, the landscape and ecological plan and the restoration requirement are the documents that will govern what a parish experiences during construction; they are approved after consent by the local planning authority, on the undertaker's application, and the examination is the only stage at which their content and the conditions attached to them can be shaped by anyone else.**

How discharge works. On the Viking model the discharging authority "must give notice to the undertaker of its decision on the application within a period of 56 days"; if it does not, it "is taken to have granted all parts of the application"; it may ask for further information within 21 days; and it may charge a fee [10, Sch 2 Part 2]. If it refuses, or is deemed to have refused, or attaches conditions the undertaker objects to, "the undertaker may appeal" to the Secretary of State within 42 days, and "the decision of the appointed person on an appeal is final and binding on the parties" [10]. **Only the undertaker can appeal a decision on a requirement. A parish council, a resident or a landowner has no appeal against an approval, and no standing to insist that the authority refuse; an authority that fails to decide within 56 days is deemed to have approved.** There is no statutory duty to consult the parish on a discharge application, though authorities commonly publish them and some Orders require consultation with named bodies. A parish that wants a say in the construction plan for its area has, in practice, to secure it in the Order — for example by asking the Examining Authority to require that the plan be prepared in consultation with the parish council, or that a community liaison mechanism be established — because nothing in the general law supplies it afterwards.

Protective provisions. Each statutory undertaker whose apparatus the pipeline crosses — the gas transmission and distribution networks, water and sewerage undertakers, electricity networks, Network Rail, National Highways, the Canal & River Trust, the Environment Agency for main rivers — will have a part of a protective-provisions schedule in its favour, setting out consents, standards and indemnities; the Viking Order has fourteen such parts [20]. They are negotiated between the applicant and the undertaker and are enforceable as part of the Order, but they protect the undertaker's apparatus, not the public.

Enforcement. It is an offence, "without reasonable excuse", to carry out "development in breach of the terms of an order granting development consent" or otherwise to fail "to comply with the terms of an order", punishable by a fine on summary conviction or on indictment [21]. The local planning

authority may serve a notice of unauthorised development where a person has been convicted [22], and "may apply to the court for an injunction if it considers it necessary or expedient for any actual or apprehended prohibited activity to be restrained" [23]. The enforcing body is the local planning authority — the district or unitary council, or the National Park Authority within the Park — not the Inspectorate and not the Secretary of State. A parish council's route to enforcement is to report a suspected breach, with evidence, to that authority and, if it will not act, to consider the ordinary remedies against a public authority's failure to exercise a discretion. HSE's enforcement of the safety regime (Section 7) and the Environment Agency's of its permits run in parallel and are separate.

Changes after consent. An Order can be changed after it is made. A "non-material" change may be made by the Secretary of State on the undertaker's application where satisfied that "the change is not material", having regard to the effect of the change "together with any previous changes"; a material change follows a fuller procedure with publicity and may be refused where the development "should properly be the subject of an application under section 37" [24]. Limits of deviation written into the Order — the lateral and vertical tolerance within which the pipeline can be built without any change procedure — are the more important flexibility in practice, and are settled at examination.

What the examination can secure. The reader should draw one conclusion from all of this. The Environmental Statement's findings, the requirements and their discharging mechanisms, the limits of deviation, the protective provisions and any community-liaison or consultation obligation are all fixed in the Order, and the Order is settled by the examination. **After consent the questions are whether the approved details comply with the Order and whether the Order is being complied with; whether the effects were acceptable in the first place is not reopened.** Representations at examination that ask for specific, drafted requirements — a restriction on construction hours near a school; a haul-route plan that excludes a named lane; reinstatement of a hedgerow or wall to a stated standard within a stated time; consultation with the parish council on the construction plan for its area; a soil-management and aftercare period; a scheme for reopening a named footpath — are the kind that Examining Authorities can act on and routinely do. Representations that the effects are unacceptable in principle are weighed against the need case and, for critical national priority infrastructure, are unlikely to prevail on their own (Section 21).

23.3 What is uncertain, contested or not yet disclosed

- **The working-corridor width** — 30–40 m or 50–100 m — and the permanent easement width and restrictions.
- **The locations, heights and number of above-ground installations and block valve stations** — "not yet known" at scoping; the socio-economic and landscape assessments depend on them.
- **The proportion of best and most versatile land in the corridor** — to be surveyed; not yet published for any section.
- **Whether the pipeline will be removed or left in situ at decommissioning, and whether the easement would be released and the land reinstated** — the applicant's own material is inconsistent on the first and silent on the second.
- **The treatment of the National Park section under the exceptional-circumstances test** — and what "meeting the need for it in some other way" will be taken to include.
- **Whether the applicant will offer any community benefit, or any community-liaison requirement in the draft Order** — nothing on the public record.
- **The cumulative assessment with HyNet's pipelines and the Welsh projects** — required, not yet seen.
- **Which requirements the draft Order will carry, and which bodies must be consulted on their discharge** — settled only at examination.

23.4 Questions the reader may wish to put

To the applicant (before Phase 2): What is the working-corridor width, and what is the permanent easement width and the restriction on planting and building within it? Where are the above-ground installations and block valve stations proposed, at what height, and what is the limit of deviation for each? What proportion of the corridor in this parish is grade 1, 2 or 3a land? Will the pipeline be removed at the end of its life, and if not, will the easement be released and the restriction on the land

lifted, and who remains responsible for the abandoned pipe? Will the draft Order require the construction environmental management plan and traffic plan for each section to be prepared in consultation with the parish councils concerned, and will it establish a community liaison mechanism? Is any community benefit proposed, and if so will it be secured in the Order?

To the host authority: Which officer will discharge the requirements, and will discharge applications be published and open to parish comment as a matter of the authority's practice? Will the local impact report identify the specific requirements the authority considers necessary for its area — construction hours, haul routes, restoration standards, aftercare?

To the Inspectorate (at examination): A written representation that identifies, in draft, the requirements the parish considers necessary and the bodies that should be consulted on their discharge, with the reasons; and a request for an issue-specific hearing on the draft Order if the applicant's draft does not carry them.

23.5 References

1. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, SI 2017/572, regulation 14(1), (3)(b) and (4)(a). https://www.legislation.gov.uk/uksi/2017/572/regulation/14
2. SI 2017/572, Schedule 4, paragraphs 1–9 (paragraph 5(d)–(f) quoted). https://www.legislation.gov.uk/uksi/2017/572/schedule/4
3. SI 2017/572, regulation 20(1)–(4). https://www.legislation.gov.uk/uksi/2017/572/regulation/20
4. Planning Inspectorate, *Scoping Opinion: Proposed Peak Cluster CCS Pipeline*, EN0710001-000018, 19 February 2026, with Appendix 1 (consultation bodies) and Appendix 2 (responses). IDs cited in the text: 2.1.2, 2.1.4, 2.1.11, 2.1.13, 3.2.8, 3.3.15, 3.3.26, 3.3.27, 3.4.1, 3.4.4, 3.10.3, 3.11.1, 3.14.74, 3.15.2, 3.15.3; Also ID 3.7.1. Appendix 2 responses of the Environment Agency (10 February 2026), Natural England, Staffordshire County Council (9 February 2026), Wirral Council, North Rode Parish Council (5 February 2026) and Cheshire West and Chester Council. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001/documents
5. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (EN-1)*, 2025 revision (published 6 January 2026), paragraphs 4.2.28, 4.2.30, 5.10.7, 5.10.8, 5.10.32, 5.11.12 and 5.11.34. https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage
6. National Parks and Access to the Countryside Act 1949, section 11A (as amended by the Levelling-up and Regeneration Act 2023, section 245, in force 26 December 2023). https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97/section/11A
7. The Conservation of Habitats and Species Regulations 2017, SI 2017/1012, regulations 63, 64 and 68. https://www.legislation.gov.uk/uksi/2017/1012/regulation/63
8. Planning and Infrastructure Act 2025, Schedule 5 (Ramsar sites), brought into force on 21 May 2026 by the Planning and Infrastructure Act 2025 (Commencement No. 3 and Transitional Provisions) Regulations 2026, SI 2026/549. https://www.legislation.gov.uk/uksi/2026/549/made
9. The Viking CCS Carbon Dioxide Pipeline Order 2025, SI 2025/509, article 39 (hedgerows). https://www.legislation.gov.uk/uksi/2025/509/article/39/made
10. SI 2025/509, Schedule 2 (requirements 1–22) and Schedule 2, Part 2 (procedure for discharge of requirements: 56-day determination, deemed approval, further information, fees, appeals within 42 days, decision "final and binding"). https://www.legislation.gov.uk/uksi/2025/509/schedule/2/made
11. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on preparing an application — Part 2: Application contents*, 3 July 2026, paragraph 2.2 (documents required "where applicable", including an outline biodiversity net gain plan for applications from 2 November 2026). https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-2-application-contents

12. SI 2025/509, article 12 (temporary restriction of public rights of way). https://www.legislation.gov.uk/uksi/2025/509/article/12/made
13. Planning and Infrastructure Act 2025, section 27, inserting sections 38A–38D into the Electricity Act 1989 (section 38A(1)–(3) quoted). https://www.legislation.gov.uk/ukpga/2025/34/section/27/enacted
14. Department for Energy Security and Net Zero, *Scheme design for bill discounts for new transmission network infrastructure: government response*, 24 March 2026; and press release "Households living near new pylons to save thousands on bills", 12 August 2026. https://www.gov.uk/government/consultations/scheme-design-for-bill-discounts-for-new-transmission-network-infrastructure/outcome/scheme-design-for-bill-discounts-for-transmission-network-infrastructure-government-response-accessible-webpage ; https://www.gov.uk/government/news/households-living-near-new-pylons-to-save-thousands-on-bills
15. Department for Energy Security and Net Zero, *Community Benefits and Shared Ownership for Low Carbon Energy Infrastructure: working paper*, May 2025 (consultation closed 16 July 2025; no Government response published at 9 September 2026), and the consultation page. https://assets.publishing.service.gov.uk/media/682b5647010c5c28d1c7e7ff/community-benefits-and-shared-ownership-working-paper.pdf ; https://energygovuk.citizenspace.com/energy-infrastructure-planning/community-benefits-shared-ownership-en-infrastruct/
16. Department for Energy Security and Net Zero, *Carbon capture, usage and storage: a vision to establish a competitive market*, 20 December 2023. https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-a-vision-to-establish-a-competitive-market
17. Searches of the applicant's website (peakcluster.co.uk), the HyNet North West project website and the Viking CCS project website, 9 September 2026: no community-benefit-fund statement located (absence of evidence, recorded as such).
18. Planning Act 2008, section 120(1), (2) and (5). https://www.legislation.gov.uk/ukpga/2008/29/section/120
19. Planning Inspectorate, *Nationally Significant Infrastructure Projects: Advice Note Fifteen — Drafting Development Consent Orders*, 24 March 2025, paragraphs 15.2, 19.1 and 22.1. https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-fifteen-drafting-development-consent-orders
20. SI 2025/509, Schedule 9 (protective provisions, Parts 1–14). https://www.legislation.gov.uk/uksi/2025/509/schedule/9/made
21. Planning Act 2008, section 161. https://www.legislation.gov.uk/ukpga/2008/29/section/161
22. Planning Act 2008, section 169. https://www.legislation.gov.uk/ukpga/2008/29/section/169
23. Planning Act 2008, section 171. https://www.legislation.gov.uk/ukpga/2008/29/section/171
24. Planning Act 2008, section 153 and Schedule 6, paragraphs 2 and 3. https://www.legislation.gov.uk/ukpga/2008/29/schedule/6

Part F — What happens next and how to engage

Contents of this Part. Section 24 — Timeline, milestones and how to stay informed. Section 25 — Structured question bank. Section 26 — Glossary and acronyms. Section 27 — Reference library. Section 28 — How to validate this report. Appendix C — Key statutory extracts. Appendix H — Templates for parish councils.

Conventions used in this Part. “The applicant” means Peak Cluster Limited; “the Inspectorate” means the Planning Inspectorate. Dates after September 2026 are indicative unless a statutory clock fixes them, and every later date moves with the first. Sections 25 and 27 are compiled from the other Parts and carry no new material. Appendix C reproduces statutory text as displayed on legislation.gov.uk on the date stated. **Key findings are set in bold**; the emphasis marks importance, not certainty.

Section 24 — Timeline, milestones and how to stay informed

24.1 Why this matters locally

The process has fixed clocks, and most of them start without any announcement to a parish. Registration to take part in the examination opens when the application is accepted and closes after a minimum of thirty days; the deadline “cannot be extended” (Part E, Section 21). The applicant’s Phase 2 engagement will be at its discretion as to timing and form. A council that has not decided in advance who watches for these events, and where, will find out about them from a neighbour. This section sets out the forward timeline with the source of each date, what to expect at each stage, and the small number of places where the events will be announced.

24.2 What is established

The forward timeline

Table 24.1 — Milestones ahead, with sources

When	What	Source and status
Late 2026	Applicant’s Phase 2 engagement: “reducing a majority of the pipeline corridor to 100m and sharing more specific locations for infrastructure”	Applicant’s factsheet and consultation website (company statement); its January 2026 programme scheduled November 2026–February 2027 [1][2]
Before application	Section 46 notification to the Secretary of State and host authorities — “where practicable, not less than 6 months before submission” per guidance; section 48 publicity	Planning Act 2008 ss.46, 48 (as amended 24 July 2026); MHCLG guidance [3][4]
By mid-2027	Storage permit application for Morecambe Net Zero due under the licence work programme	NSTA licence CS010 [5]
September 2027	Application “expected to be submitted”	Inspectorate project page [6]
+28 days	Acceptance decision	s.55(2) [7]
After the applicant’s notice: ≥30 days	Relevant representation period — registration as an interested party	APFP Regulations reg 9(4)(j) (30 days for EIA development); s.56(5) (28-day floor for notified persons) [8]
Early 2028	Preliminary meeting (at least 21 days’ notice); examination timetable	s.88; Examination Procedure Rules 2010 r.6 [9]
Six months from the preliminary meeting	Examination: written representations, local impact reports, hearings	s.98(1) [10]
+3 months	Examining Authority’s report	s.98(3)
+3 months	Secretary of State’s decision (extendable)	s.107
+6 weeks	Judicial review window	s.118
2029–2032	Construction; operation from 2032 on the applicant’s January 2026 programme and	Applicant’s programme and website (company statements) [1][2]

When	What	Source and status
	March 2026 factsheets; its "Your questions answered" page states "From 2030"	
2028 "as early as"	Final investment decision	National Wealth Fund (Part D) [11]

The applicant's timetable has slipped once already — from "Q1–Q3 2026" in January 2024 to September 2027 now [12][6] — and the milestones after submission are statutory clocks that start only when it is made. **The one date that matters most to a parish, the registration deadline, will fall at least 30 days after the applicant publishes its notice of the accepted application — at the earliest some two months after submission and in practice usually nearer three; on the current programme that is November 2027 to early 2028.**

What to expect from Phase 2

Under the regime in force since 24 July 2026 there is "no statutory requirement for applicants to engage or consult during the pre-application stage" [4]. The applicant has said it will hold a second phase "towards the end of the year" [2]; the guidance it must have regard to encourages it to be clear "what aspects of a proposed development are fixed, what is still being developed, what feedback can influence", and to be open "about the alternatives and options being considered" [4]. What a parish can expect, on the applicant's own statements, is a narrower corridor, infrastructure locations, and a Preliminary Environmental Information Report; what it cannot expect, unless the applicant chooses, is a statutory consultation period, a statement of community consultation, or a consultation report at application. Part E, Section 17, explains the change; Section 21 explains why the record a parish creates in response is what carries forward.

Registering and taking part

To take part in the examination a parish council, a group or an individual must register as an interested party by submitting a relevant representation on the Inspectorate's form within the period the applicant notifies — a minimum of 30 days from the notice for an EIA development [8]. The representation must give a name and address and "the principal submissions, and where practicable, the full particulars of the case" [13]. Parish councils are statutory parties and will be notified of the accepted application in any event, but must still register to take part [14]. Part E, Section 21, sets out what to put in a representation and the mechanics of hearings, written representations and deadlines.

Where the events will be announced

Six sources between them carry everything that happens. **The Inspectorate's project page** (national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001) holds the documents register, the section 51 advice register, project updates and, once the application is made, the registration form, the examination library and timetable, and every representation; it offers email updates [6]. **The applicant's websites** (peakcluster.co.uk; peakcluster-consultation.co.uk) carry its consultation material, factsheets, progress updates and "your questions answered" page [2]. **The host authorities' committee pages** carry officer reports, motions and minutes — the Wirral, Cheshire East, Cheshire West and Chester, Derbyshire, Staffordshire and Peak District National Park Authority democracy sites cited in Part E, Section 19 — and the county councils' pages will carry any emergency-planning material once the pipeline is notified. **Hansard and the written-questions register** (hansard.parliament.uk; questions-statements.parliament.uk) carry debates and answers, of which there were several in May–July 2026 (Part D, Section 14). **Legislation.gov.uk and gov.uk** carry the statutory changes and the guidance, which changed substantially in July 2026 and may change again. **Local press** carries council decisions before minutes are published and should be treated as a prompt to find the record, not as the record.

What a parish can do now

The steps open to a parish now, none of which depends on the applicant: nominate one member to watch the project page and the applicant's site monthly; write to the applicant with the questions in

Section 25 that concern the parish, copying the Inspectorate's project mailbox so that the exchange is on the register; ask the host authority which officer is handling the project and whether the parish's questions will be reflected in the local impact report; record the parish's position, whatever it is, in a minute; and, if the parish owns or occupies land in the corridor, decide its position on survey access with the material in Part E, Section 20.

24.3 What is uncertain, contested or not yet disclosed

- **The date and content of Phase 2**, and whether a Preliminary Environmental Information Report will be published.
- **Whether the September 2027 date will hold** — it has moved once.
- **The operating date** — 2032 in the applicant's January 2026 programme and March 2026 factsheets, "From 2030" on its "Your questions answered" page; the applicant has not said which is current.
- **Whether the applicant will give the section 46 notification** and when the summary of the proposed application will be public.
- **The storage permit timing**, which bears on whether the application is made at all.

24.4 Questions the reader may wish to put

To the applicant: When will Phase 2 open and close, what will it contain, and will a Preliminary Environmental Information Report be published? When will the section 46 notification be given, and will the summary be published? Does the September 2027 date still stand? Is the operating date 2030, as the applicant's website states, or 2032, as its programme and factsheets state?

To the host authority: Who is the officer responsible, and will the authority publish the applicant's engagement material and its own responses?

To the parish council: Who is watching the project page, and how will residents be told when registration opens?

24.5 References

1. Peak Cluster, *Factsheet 1: About Peak Cluster* and *Factsheet 2: About the pipeline*, March 2026; *Programme Document (Pre-Application)*, January 2026 (company statements). https://peakcluster-consultation.co.uk/files/Peak%20Cluster%20Programme%20Document%20Pre-Application%20(PINS).pdf
2. Peak Cluster consultation website and "Your questions answered" page, as at 10 September 2026 (company statements). https://peakcluster-consultation.co.uk/ ; https://peakcluster.co.uk/your-questions-answered/
3. Planning Act 2008, sections 46 and 48 (as amended by the Planning and Infrastructure Act 2025, section 6, in force 24 July 2026). https://www.legislation.gov.uk/ukpga/2008/29/section/46
4. Ministry of Housing, Communities and Local Government, *Planning Act 2008: Guidance on preparing an application — Part 1: Pre-application steps*, 3 July 2026, paragraphs 1.2, 2.10 and 3.8–3.9. https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-1-pre-application-steps
5. North Sea Transition Authority, Carbon Dioxide Appraisal and Storage Licence CS010 (work programme). https://www.nstauthority.co.uk/media/cdsnx20u/cs010-spirit-energy-production-uk-limited-carbon-dioxide-appraisal-and-storage-licence-appraisal-term-accessible-version.pdf
6. Planning Inspectorate, Peak Cluster CCS Pipeline (EN0710001) project page. https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001
7. Planning Act 2008, section 55(2). https://www.legislation.gov.uk/ukpga/2008/29/section/55
8. Planning Act 2008, section 56(5); The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, SI 2009/2264, regulation 9(4). https://www.legislation.gov.uk/uksi/2009/2264/regulation/9
9. Planning Act 2008, section 88; The Infrastructure Planning (Examination Procedure) Rules 2010, SI 2010/103, rule 6. https://www.legislation.gov.uk/uksi/2010/103/rule/6/made

10. Planning Act 2008, sections 98, 107 and 118. https://www.legislation.gov.uk/ukpga/2008/29/section/98
11. National Wealth Fund, “National Wealth Fund invests in Peak Cluster…”, 7 July 2025. https://www.nationalwealthfund.org.uk/news-and-publications/news/national-wealth-fund-invests-in-peak-cluster-to-secure-a-resilient-future-for-cement-and-lime-manufacturing-in-the-uk/
12. Planning Inspectorate, *Peak Cluster CCS Pipeline: Inception Meeting Note*, EN0710001-000002, 29 January 2024. https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0710001-000002-240129%20Final%20Peak%20Cluster%20Inception%20Meeting%20note.pdf
13. The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015, SI 2015/462, regulation 4. https://www.legislation.gov.uk/uksi/2015/462/regulation/4
14. Planning Act 2008, sections 88(3) and 102(1); SI 2015/462, Schedule 1. https://www.legislation.gov.uk/uksi/2015/462/schedule/1

Section 25 — Structured question bank

Every question posed in Sections 1 to 23, collected by addressee. Each entry gives the section in which the question is explained, so that a reader can see why it matters and what the answer would be tested against. The questions are for clarification: their purpose is to obtain the information on which a balanced decision can be made (Section 1). Where a question is addressed to a regulator through the local authority, the section says so. Wording is as in the source section; a reader adapting a question for a letter should keep the specifics — a named lane, a named installation, a stated tonnage — because specific questions are answered and general ones are not.

25.1 To the applicant (Peak Cluster Limited)

Section 3 — The project and the promoter. What are the shareholdings in Peak Cluster Limited? What is the estimated capital cost of the onshore pipeline, and what is the funding plan to final investment decision and beyond? Has Lhoist withdrawn, and does any other partner's participation depend on conditions? What is the verified annual CO_2 emission of each of the four works, and what capture rate is assumed? What happens to the application if Morecambe Net Zero does not obtain a storage permit by 2027?

Section 4 — Route, corridor and what would be built. When will the alignment within the corridor be published, and will the Phase 2 material show the alternatives considered and the reasons for rejection? Where are the block valve stations and above-ground installations proposed in this parish, at what size and height, and with what lighting, fencing, access and screening? What is the working width and the permanent easement width, and what restrictions will apply within the easement? Which lanes will carry construction traffic, where will the compounds be, and for how long will the working width be open in this parish? What is the operating pressure and phase of the section through this parish?

Section 5 — CO_2 in dense phase: what is physically different about this pipeline. What is the maximum operating pressure and the phase of the CO_2 in each section, and will the draft Order fix a maximum operating pressure and phase for the trunk? Will the Environmental Statement assess a dense-phase trunk as the worst case within the Rochdale envelope, or will the applicant rule it out? If dense phase is contemplated "in later years", to what design pressure and fracture-control standard will the trunk be built at the outset, and what conversion works (compression, valves, re-notification to HSE) would the change require? Are intermediate compressor stations proposed, and where? What is the design throughput of the trunk in gas phase and in dense phase? What wall thickness and steel grade are proposed, and what minimum Charpy toughness? Which fracture-control method will be used (PD 8010, ISO 27913:2024, DNV-RP-F104), with what assumed saturation pressure and what arrestor strategy? What is the proposed spacing of block valves, their closure time, and the inventory between each pair? What CO_2 stream specification will apply, how will it be monitored at each entry point, and what happens to a stream that fails it? What dispersion model will be used in the Environmental Statement, will it resolve local terrain, and will the input assumptions be published? Where and how often will the pipeline be vented, and at what rate?

Section 6 — CO_2 pipeline and release incidents: the evidence base. Will the Environmental Statement's major-accidents chapter present terrain-resolved dispersion modelling for representative rupture and puncture cases along the whole route, and will the model, inputs and results be published in full? Has the applicant reviewed the PHMSA Satartia findings and the PHMSA 2025 proposals, and which of the proposed measures (dispersion-based "could affect" areas, two-mile emergency planning zones, automatic responder notification, responder training and equipment, continuous leak monitoring) does it commit to? Will independent leak detection along the whole line be a commitment secured in the Development Consent Order rather than a technology being "explored"? Has the route been assessed for ground-movement hazard (landslip, mining, peat, made ground) at every crossing of a slope, cutting or watercourse?

Section 7 — UK safety regulation: HSE, the Pipelines Safety Regulations and the 2026 reclassification. Has the applicant notified, or when will it notify, HSE under PSR regulation 20, and will the Schedule 4 particulars (pressure, diameter, wall thickness, route) be published at the same time? When will the major accident prevention document be prepared, and will its hazard identification and risk evaluation be shared with the local authorities for emergency-planning

purposes before consent? Which CO_2-specific design standard (ISO 27913:2024, DNV-RP-F104) is applied in addition to PD 8010? What are the applicant's own emergency arrangements under regulation 24 — control-room detection, automatic responder notification, public warning — and will they be secured as DCO requirements?

Section 8 — Land-use planning consequences of a major accident hazard pipeline. Will the Environmental Statement include the applicant's own calculation of the three HSE-style consultation zones for the proposed pipeline, using HSE's dangerous-dose criteria, so that their effect on allocated and proposed development sites can be examined before consent? What easement width and terms are proposed, and where is freehold acquisition sought? What compensation schedule will be offered for easements, temporary possession, crop loss, drainage and disturbance, and will it be at least equivalent to the National Gas Transmission schedule? What are the soil, drainage and reinstatement commitments, and will they be secured as DCO requirements with a defects period? Will the Agricultural Land Classification survey be published?

Section 9 — Who uses CO_2 in the UK and where it comes from. Has the applicant or any capture-site partner assessed supplying food- or industrial-grade CO_2 to the UK merchant market from the captured stream, and if so at what tonnage and cost? Does the pipeline and capture design allow a purified side-stream to be taken off? Has the applicant responded to the Department for Business and Trade's June 2026 call for evidence on CO_2 supply resilience?

Section 10 — Utilisation and local capture: what is and is not realistic. Which additional emitters is the 6.6 Mtpa pipeline capacity sized for, and where are they? Will the Environmental Statement's alternatives chapter present the quantified comparison of pipeline, rail, road and ship, and of alternative stores, that Natural England asked for? What capture technology has each site chosen, what is its steam and power demand, and what will the capture plants' own emissions be? What clinker-substitution and alternative-fuel measures are the partners committed to alongside capture, and what tonnage do they remove before capture? Did the applicant assess capture for re-use — merchant supply, horticulture, mineralisation, synthetic aviation fuel — as an alternative or as a side-stream, and if not why not? What proportion of the £5 billion is the pipeline, coastal station, offshore pipeline and store, as distinct from the capture plants? Has any partner discussed offtake with an industrial-gas company or a power-to-liquid fuel developer?

Section 11 — Transporting CO_2: pipeline, rail, road and ship compared. Will the Environmental Statement present a quantified comparison of pipeline, rail, road and ship options — cost per tonne, energy use, emissions, safety, and community effects — with the assumptions stated? Was carriage by rail to an existing port with liquid-bulk facilities, and shipping from there to the store, assessed? Does the "400 one-way truck movements" figure include empty returns? Why is the pipeline sized for 6.6 Mtpa when the four sites emit about 3 Mtpa, and does the alternatives assessment use the higher figure?

Section 12 — The rail network serving the capture sites: existing flows, capacity and upgrades. Did the applicant consult Network Rail or any freight operator on carriage of CO_2 by rail from Hope and Tunstead, and will the correspondence be published? What loading, liquefaction and terminal facilities would a rail option have required, and where?

Section 14 — UK CCUS policy and where Peak Cluster sits in it. On what business model does the applicant expect the pipeline to be paid for — Government capture contracts, a regulated transport-and-storage licence with a support package, or charges paid by the producers from their own resources? Has it applied for, or been invited into, any Government selection process? What carbon price does its case assume?

Section 15 — Project cost, funding and who pays. What is the estimated capital cost of the onshore pipeline, the installations and the Coastal AGI, and of the capture plants? What is the funding plan to and beyond final investment decision, and on what business model? Will the applicant accept a requirement that construction not begin until the storage permit is granted and the funding to complete the pipeline is demonstrated? What per-tonne charge do the producers expect to pay?

Section 17 — The Development Consent Order process from start to finish. When will the section 46 notification be made, and will the summary of the proposed application, with its route, be

published at the same time? What will the “late 2026” engagement cover, what is fixed and what remains open, and will responses and the applicant’s reply to them be published? Will the applicant file an engagement summary and key issues tracker with the application? Is a section 35 direction being sought, for what development, and will the capture plants be part of this application?

Section 18 — Who regulates what: the institutional map. Which prescribed bodies has the applicant engaged to date, and will their responses be published with the application? Will the Environment Agency and Natural England consent to any prescribed consents being included in the Order, or will those be sought separately?

Section 19 — The roles of local authorities and parish councils, and the positions taken to date. Which host authorities has it engaged, and under what agreements? Will it publish its engagement summary?

Section 20 — Land access, land rights and compensation. Will it confirm that it will use section 53, and not section 172, for any statutory survey access on this project? Will it publish its proposed easement terms and compensation schedule before Phase 2? Will its Land and Rights Negotiation Tracker be filed with the application? Will it publish a plain statement of the statutory powers it intends to rely on for survey access?

Section 22 — Route selection, alternatives and what the applicant must show. *(addressed in the source to: The applicant (before Phase 2))* Will it publish the strategic options appraisal and the comparison of the two eastern corridor options recorded in July 2024? Will its Phase 2 material show the alternatives considered and the reasons for rejection, as the guidance encourages? Will the ES assess: the northern Middlewich option; a southern Cauldon feeder; exclusion of Cauldon; a Barrow or Dee landfall; ship from an existing port; rail; and partial capture for re-use — and, if any is excluded, on what ground under EN-1 section 4.3?

Section 23 — Environmental and community effects to be assessed, and the controls after consent. *(addressed in the source to: The applicant (before Phase 2))* What is the working-corridor width, and what is the permanent easement width and the restriction on planting and building within it? Where are the above-ground installations and block valve stations proposed, at what height, and what is the limit of deviation for each? What proportion of the corridor in this parish is grade 1, 2 or 3a land? Will the pipeline be removed at the end of its life, and if not, will the easement be released and the restriction on the land lifted, and who remains responsible for the abandoned pipe? Will the draft Order require the construction environmental management plan and traffic plan for each section to be prepared in consultation with the parish councils concerned, and will it establish a community liaison mechanism? Is any community benefit proposed, and if so will it be secured in the Order?

Section 13 — Storage: where the CO_2 would go, who controls it, and what “decommissioning” can mean. *(addressed in the source to: The applicant and to Spirit Energy)* What is the storage permit timetable, and what happens to the pipeline application if the permit is delayed beyond 2027 or refused? What injection rate and total capacity will the permit application seek? How many wells penetrate the storage complex, how many have been assessed for CO_2 integrity, and how many will be re-abandoned? What financial security will be provided, and by whom, for the closure and post-closure period? Is ship import at Barrow part of the MNZ business case, and with what effect on capacity for Peak Cluster?

25.2 To the Planning Inspectorate

Section 17 — The Development Consent Order process from start to finish. Will the examination be by a panel? Has a section 35 request been received?

Section 22 — Route selection, alternatives and what the applicant must show. *(addressed in the source to: The Inspectorate (section 51))* A written request that the Inspectorate note, for acceptance and examination purposes, the alternatives put to the applicant and the applicant’s response.

Section 23 — Environmental and community effects to be assessed, and the controls after consent. *(addressed in the source to: The Inspectorate (at examination))* A written representation that identifies, in draft, the requirements the parish considers necessary and the bodies that should

be consulted on their discharge, with the reasons; and a request for an issue-specific hearing on the draft Order if the applicant's draft does not carry them.

Section 11 — Transporting CO_2: pipeline, rail, road and ship compared. *(addressed in the source to: Natural England and the Inspectorate)* Will the adequacy of the alternatives assessment against the scoping advice be a matter for representations at examination?

25.3 To the Health and Safety Executive

Section 7 — UK safety regulation: HSE, the Pipelines Safety Regulations and the 2026 reclassification. What methodology will HSE use to set consultation distances for a dense-phase CO_2 pipeline, and when will it be published? Does HSE regard the above-ground installations as outside COMAH? Will HSE's scoping response and any representation at examination be published in full?

Section 8 — Land-use planning consequences of a major accident hazard pipeline. When will HSE publish its approach to consultation distances for dense-phase CO_2 pipelines, and will it provide indicative distances to planning authorities before the operator's formal notification?

Section 18 — Who regulates what: the institutional map. How and when will HSE give the land-use planning advice it deferred in February 2026 to a consultation route that has since been repealed?

Section 5 — CO_2 in dense phase: what is physically different about this pipeline. *(addressed in the source to: HSE (via the local authority or directly))* Will HSE require the applicant's major accident prevention document to address running fracture using a CO_2-specific method? What dispersion approach does HSE apply when setting land-use planning zones for a dense-phase CO_2 pipeline (Section 8)?

25.4 To Government departments and the storage regulator

Section 9 — Who uses CO_2 in the UK and where it comes from. *(addressed in the source to: The Department for Business and Trade / DESNZ)* Does the Government's policy on CO_2 supply resilience contemplate supply from carbon-capture clusters, and if so is any business-model support available for the purification and offtake infrastructure?

Section 10 — Utilisation and local capture: what is and is not realistic. *(addressed in the source to: DESNZ and the Department for Transport)* Is cement-kiln process CO_2 an eligible carbon source for power-to-liquid fuel under the SAF Mandate? Will the UK ETS response on non-pipeline transport, or any subsequent decision, give credit for captured CO_2 that is used rather than stored, and if so for which uses?

Section 13 — Storage: where the CO_2 would go, who controls it, and what "decommissioning" can mean. *(addressed in the source to: DESNZ)* Outside Track-1 and Track-2, who underwrites the long-term liability for a store such as MNZ, and on what terms?

Section 13 — Storage: where the CO_2 would go, who controls it, and what "decommissioning" can mean. *(addressed in the source to: The NSTA)* Will the storage permit application and its supporting characterisation be published and open to representations? What minimum post-closure period will be set?

25.5 To Network Rail and the freight operators

Section 12 — The rail network serving the capture sites: existing flows, capacity and upgrades. *(addressed in the source to: Network Rail and the freight operators)* What freight path capacity exists on the Hope Valley line and the Mid-Cheshire line for additional daily flows? Is any liquid-CO_2 wagon fleet in development for the UK?

25.6 To the county, unitary and host authorities, the local planning authorities and the emergency planners

Section 4 — Route, corridor and what would be built. Has the authority received any alignment, valve-station or compound information beyond the published corridor, and will it publish what it receives?

Section 14 — UK CCUS policy and where Peak Cluster sits in it. Will the local impact report record the funding position and its bearing on the compulsory acquisition case?

Section 15 — Project cost, funding and who pays. Will the local impact report address the funding statement and the case for a construction-sequencing requirement?

Section 19 — The roles of local authorities and parish councils, and the positions taken to date. Has the council received the applicant's section 46 notification? Has it appointed a lead officer, begun a draft local impact report, and decided whether to charge the applicant under the 2026 fees regulations or to seek a funded arrangement of the Derbyshire kind? Will it ask parish councils for their evidence for inclusion in the local impact report, and on what timetable? Will it publish its correspondence with the applicant?

Section 21 — Making an effective representation: framework, not sentiment. Will the local impact report address the Table 21.1 grounds as they bear on the authority's area, and will a draft be shared with parish councils before the registration deadline?

Section 22 — Route selection, alternatives and what the applicant must show. Will the local impact report record the alternatives the authority itself has identified and the applicant's response to them?

Section 23 — Environmental and community effects to be assessed, and the controls after consent. Which officer will discharge the requirements, and will discharge applications be published and open to parish comment as a matter of the authority's practice? Will the local impact report identify the specific requirements the authority considers necessary for its area — construction hours, haul routes, restoration standards, aftercare?

Section 7 — UK safety regulation: HSE, the Pipelines Safety Regulations and the 2026 reclassification. *(addressed in the source to: The county or unitary council)* Has HSE notified the council of a prospective major accident hazard pipeline in its area? Has the council begun to scope the regulation 25 emergency plan, identified the officers and responders involved, and considered recovering its costs under regulation 26? Will the council make emergency-planning adequacy a matter for its Local Impact Report at examination?

Section 8 — Land-use planning consequences of a major accident hazard pipeline. *(addressed in the source to: The local planning authority)* Has the authority mapped its Local Plan allocations, Neighbourhood Plan sites and pending applications against the consultation corridor? Will it require the applicant to provide indicative consultation zones before examination? How will it treat applications within the corridor between now and consent?

Section 10 — Utilisation and local capture: what is and is not realistic. *(addressed in the source to: The local planning authorities and the National Park Authority)* Have the capture plants themselves — new industrial buildings, stacks, steam plant and amine storage at Hope (inside the National Park), Tunstead and Cauldon — been assessed for their own planning and environmental effects, separately from the pipeline?

Section 12 — The rail network serving the capture sites: existing flows, capacity and upgrades. *(addressed in the source to: Derbyshire and Cheshire councils)* Do the county transport plans and the Peak District National Park's minerals policies contain any position on additional freight movements on the Hope Valley and Peak Forest lines?

Section 17 — The Development Consent Order process from start to finish. *(addressed in the source to: The host local authorities)* Has the authority received a section 46 notification? Has it begun a draft local impact report?

Section 18 — Who regulates what: the institutional map. *(addressed in the source to: The county and unitary councils)* Has the council been approached about emergency planning for a major accident hazard pipeline, and has it engaged the Local Resilience Forum?

Section 6 — CO_2 pipeline and release incidents: the evidence base. *(addressed in the source to: The local authority and the Local Resilience Forum)* Has the authority been briefed on the Satartia investigation findings, and does its emergency-planning capacity extend to a toxic, heavier-than-air, engine-stalling release along 200 km of rural corridor?

25.7 To the parish council or residents' group itself

Section 19 — The roles of local authorities and parish councils, and the positions taken to date. Has the council decided whether to register as an interested party when the application is accepted, and who will prepare its relevant representation? Has it approached neighbouring parishes about a single, jointly evidenced submission? Has it written to the Inspectorate on any matter it wants on the published record before the application?

Section 20 — Land access, land rights and compensation. Does the council own or occupy any land in the corridor, and has it been approached? Has it advised residents where to find independent guidance before signing a licence or returning a questionnaire?

Section 21 — Making an effective representation: framework, not sentiment. *(addressed in the source to: The parish council or residents' group)* Who will prepare the representation, on which of the Table 21.1 grounds, with what evidence, and by when? Which documents in the application will be read first (the alternatives chapter; the major accidents chapter; the Statement of Reasons; the requirements schedule; the Book of Reference)? Will the group ask the host authority to include its evidence in the local impact report?

25.8 To the Member of Parliament

Section 3 — The project and the promoter. Will the Department state whether it intends to include the project in any future cluster or allocation round, and if not, on what business model the applicant expects to operate?

Section 14 — UK CCUS policy and where Peak Cluster sits in it. Will the Department say whether a further allocation round or a process for new economic licences will be opened before the application is decided, and whether this project would be eligible?

Section 15 — Project cost, funding and who pays. Will the Department state whether it expects the pipeline's costs to fall on the Exchequer, on levy payers or on the producers, and whether it has assessed the effect on cement and lime prices?

Section 26 — Glossary and acronyms

Terms as used in this report. Where a term has a statutory definition the source is given; the definition here is a plain-language gloss, not a substitute for the text (Appendix C). Cross-references are to the section where the term is explained.

Above-ground installation (AGI). A fenced site on a pipeline carrying valves, pigging, metering, compression or control equipment above ground. This scheme has feeder and connection AGIs along the route and a Coastal AGI with compression on the Wirral (Section 4).

Acceptance. The Inspectorate's decision, within 28 days of receipt, on whether an application is of a satisfactory standard and complies with the pre-application requirements as they now stand (Planning Act 2008, s.55; Section 17).

Acquiring authority. Under the Housing and Planning Act 2016, s.172(6), "a person who could be authorised to acquire compulsorily the land"; the term on which the availability of the s.172 survey power to a prospective DCO applicant turns (Section 20).

Affected person. A person whose name has been given to the Secretary of State as having an interest in land to be compulsorily acquired; entitled to require a compulsory acquisition hearing (s.92; Section 20).

Allowed revenue. The revenue a licensed transport-and-storage company is permitted to recover under its economic licence (Section 14).

Appropriate assessment. The assessment under the Habitats Regulations of a project likely to have a significant effect on a European site (or, since 2026, a Ramsar site) (Section 23).

Associated development. Development that is not itself the NSIP but is associated with it and can be included in the Order — for this scheme, potentially the capture plants (Section 17).

Block valve station (BVS). A small AGI where the pipeline can be isolated; the applicant gives a footprint of about 50 m by 50 m; spacing and locations not yet published (Sections 4, 5).

Blight. The statutory right of certain owners to require an authority to buy their land where it is safeguarded for a scheme; narrowly available at this stage (Section 8).

Book of Reference. The application document identifying every owner, occupier and interest in land the Order would affect, prepared "following diligent inquiry" (Section 20).

BMV land. Best and most versatile agricultural land: grades 1, 2 and 3a of the Agricultural Land Classification (Sections 8, 23).

CBAM. The UK Carbon Border Adjustment Mechanism, applying a carbon charge to imports of cement and other goods from 1 January 2027 (Section 14).

CCS / CCUS. Carbon capture and storage; carbon capture, usage and storage (the Government's term) (Sections 9–14).

Cluster sequencing. The Government's process for selecting CCUS clusters for support: Track-1 (HyNet, East Coast Cluster), Track-2 (Acorn, Viking) and expansion rounds (Section 14).

Compulsory acquisition (CA). The taking of land or rights over land without the owner's agreement, authorised by the Order where the tests in s.122 are met (Sections 20, 22).

Critical national priority (CNP). The status EN-1 gives to low-carbon infrastructure including CCS pipelines, under which the need case is presumed to outweigh residual impacts "in all but the most exceptional cases" (EN-1 paragraph 4.1.7; Sections 17, 21).

Dense phase. CO_2 above its critical pressure (73.8 bar) — liquid or supercritical — with a density close to water; the usual state for long-distance CO_2 pipelines and the state that produces the largest inventories and hazard ranges (Section 5).

Development Consent Order (DCO). The single consent for a Nationally Significant Infrastructure Project, made by the Secretary of State under the Planning Act 2008, which can include planning permission, compulsory acquisition and other consents (Section 17).

DFOS. Distributed fibre-optic sensing: a leak-detection and monitoring technique using a fibre laid with the pipeline (Section 4).

Discharge of requirements. The post-consent approval by the relevant planning authority of the plans and details a requirement calls for; on precedent, decided within 56 days, deemed approved if not, and appealable only by the undertaker (Section 23).

Easement. The permanent right over land to install, keep and access a pipeline, with restrictions on the owner's use of the strip (Sections 8, 20, 23).

Economic licence. The licence under Part 1 of the Energy Act 2023 required to transport CO_2 by pipeline to, or store it in, a geological store; regulated by Ofgem (Section 14).

EIA / Environmental Statement (ES). Environmental impact assessment under the 2017 Regulations, reported in the Environmental Statement that must accompany the application (Section 23).

EN-1. The Overarching National Policy Statement for Energy, 2025 revision, in force 6 January 2026, which governs the decision (Section 17).

Examining Authority (ExA). The inspector or panel appointed by the Inspectorate to examine the application and report to the Secretary of State (Section 17).

Free allocation. UK ETS allowances issued free to installations at risk of carbon leakage, to be phased out for CBAM sectors from 2027 (Section 14).

Funding Statement. The application document showing how compulsory acquisition and the project would be funded (Sections 15, 20).

Gas phase. CO_2 below its saturation pressure at pipeline temperature — for buried pipe, roughly below 35–45 bar — with about a tenth of the density of dense phase; the state the applicant's Scoping Report describes for the onshore trunk (Section 5).

HSE consultation zones. The inner, middle and outer zones HSE sets around a major accident hazard pipeline for land-use planning advice (Section 8).

Industrial Carbon Capture (ICC) contract. The Government's revenue-support contract for capture plants, funded by the Exchequer and paying per tonne captured and stored (Section 14).

Interested party. A person entitled to take part in the examination — the applicant, host authorities, statutory parties who opt in, and anyone who registered by relevant representation (s.102; Section 21).

Local impact report (LIR). A host authority's report on "the likely impact of the proposed development on the authority's area", to which the Secretary of State must have regard (s.60; Section 19).

Local Resilience Forum (LRF). The multi-agency emergency-planning partnership for a police area; a statutory party (Sections 7, 18).

Major accident hazard pipeline (MAHP). A pipeline carrying a dangerous fluid listed in Schedule 2 to the Pipelines Safety Regulations 1996, since 6 April 2026 including CO_2 for CCUS "in any fluid state" (Section 7).

Major accident prevention document (MAPD). The document a MAHP operator must prepare before design is complete, demonstrating that hazards have been identified and risks evaluated (Section 7).

MLWS. Mean low water springs — the seaward limit of the onshore consent (Section 4).

Morecambe Net Zero (MNZ). Spirit Energy's proposed CO_2 store in the depleted North and South Morecambe gas fields, licence CS010 (Sections 3, 13).

Nationally Significant Infrastructure Project (NSIP). A project of a type listed in s.14 of the Planning Act 2008, requiring a DCO; a cross-country pipeline over 16.093 km by a non-gas-transporter is one (Section 17).

National Wealth Fund (NWF). The Government-owned investment body (formerly UK Infrastructure Bank) holding more than 25% of Peak Cluster Limited (Sections 3, 15).

Non-pipeline transport (NPT). The Government's term for transport of CO_2 to storage other than by pipeline — "via truck, rail, ship, or barge" in its 2026 consultation (Sections 11, 12, 14).

Order limits. The boundary within which the Order authorises works and land powers (Section 23).

Pigging. Passing an inspection or cleaning tool through a pipeline (Section 4).

Pipelines Safety Regulations 1996 (PSR). The regulations governing pipeline design, operation and major accident hazards in Great Britain (Section 7).

PINS. The Planning Inspectorate (Section 17).

Preliminary Environmental Information Report (PEIR). The applicant's draft environmental information published for consultation before the Environmental Statement (Section 24).

Preliminary meeting. The meeting under s.88 that starts the six-month examination clock (Section 17).

Protective provisions. Schedules to the Order protecting the apparatus of statutory undertakers the pipeline crosses (Section 23).

Relevant representation. The registration submission by which a person becomes an interested party; must give name, address and principal submissions (Section 21).

Requirement. A condition in the Order, discharged after consent by the relevant planning authority (Section 23).

Rochdale envelope. The practice of assessing a scheme whose details are not fixed by reference to the maximum parameters ("credible worst case") the Order would allow (Sections 5, 23).

Running (ductile) fracture. A crack that propagates along a pipeline faster than the pressure inside can fall; a design issue specific to dense-phase CO_2 (Section 5).

Section 35 direction. A direction by the Secretary of State treating development that is not an NSIP as one, so that it can be included in the DCO (Section 17).

Section 51 advice. Advice given by the Inspectorate to applicants and others before an application, which must be published and which the Inspectorate now takes into account at acceptance (Sections 17, 18).

Section 53. The power of a prospective DCO applicant, authorised in writing, to enter land to survey, after 14 days' notice containing the prescribed information; reformed 24 July 2026 (Section 20).

Section 172. The survey power in the Housing and Planning Act 2016 available to an "acquiring authority"; its availability to this applicant is contested (Section 20).

SLOT / SLOD. HSE's "specified level of toxicity" and "significant likelihood of death" dangerous toxic loads, used to set hazard ranges (Sections 5, 8).

Statement of common ground (SoCG). A document agreed between the applicant and another party recording what is and is not agreed (Section 21).

Statutory party. A body listed in the 2015 Regulations — including parish councils and Local Resilience Forums — invited to the preliminary meeting and able to become an interested party by saying so (Sections 18, 19).

Transport and storage regulatory investment (TRI) model. The regulated-revenue model for CO_2 transport-and-storage companies, with an economic licence and, for Track-1, a Government support package (Section 14).

UK ETS. The UK Emissions Trading Scheme; captured CO_2 counts as not emitted only when sent by pipeline for geological storage (Sections 10, 14).

Working width. The strip within which the pipeline is built — “30–40m” in the applicant’s factsheet, “50m and 100m” in its Scoping Report (Sections 4, 23).

Section 27 — Reference library

Every source cited in Sections 1 to 23 and the appendices, consolidated and grouped by type, with the sections in which each is used. Duplicates across sections have been merged. Company, trade-body and press items are grouped separately and labelled, in accordance with the source-quality convention set out in Section 28. Web addresses are as cited; documents on the Planning Inspectorate's register are identified by their register number where one exists.

27.1 The Planning Inspectorate register for EN0710001 — principal documents

Register number	Document	Date
EN0710001-000002	Inception meeting note	29 January 2024
EN0710001-000004	Project update meeting note	1 July 2024
EN0710001-000013	EIA Scoping Report, Volume 1 (applicant)	January 2026
EN0710001-000018	Scoping Opinion, with Appendices 1 and 2	19 February 2026
EN0710001-000056	National Highways scoping response	February 2026
EN0710001-000057	Whaley Bridge Town Council late scoping response	18 February 2026
EN0710001-000190	United Utilities late scoping response	2026
EN0710001-000199	Regulation 32 transboundary screening	30 March 2026
EN0710001-000206	Marine Management Organisation late response	2026
EN0710001-000212	Section 51 advice log (version of 31 March 2026)	March 2026
EN0710001-000313	Section 51 advice log (version of 14 August 2026)	August 2026
—	Section 51 advice register (individual items)	2026

27.2 Consolidated references by type

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- Commission Implementing Regulation (EU) 2018/2066 (monitoring and reporting), Article 49, as retained in UK law for the UK Emissions Trading Scheme. https://www.legislation.gov.uk/eur/2018/2066/article/49 *[Section 10]*
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- Energy Act 2023, Part 1, sections 1, 2, 7 and 16. https://www.legislation.gov.uk/ukpga/2023/52/section/2 *[Section 13]*

- Energy Act 2023, Part 1, sections 1, 7, 9 and 16. https://www.legislation.gov.uk/ukpga/2023/52/section/1 *[Section 14]*
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- Housing and Planning Act 2016, sections 172–174. https://www.legislation.gov.uk/ukpga/2016/22/section/172 *[Section 20]*
- Land Compensation Act 1961, section 5. https://www.legislation.gov.uk/ukpga/1961/33/section/5 *[Section 8]*
- Land Compensation Act 1973, sections 1 to 4. https://www.legislation.gov.uk/ukpga/1973/26/section/1 *[Section 8]*
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27.3 Sources deliberately not relied on

The report has not relied on: campaign-group websites and social media for facts (used, if at all, for the existence of a statement); predatory or non-peer-reviewed journals; commentators on climate science without relevant qualifications; the applicant’s or its partners’ statements for any fact that can be checked elsewhere (they are cited as statements, not as facts); press reports for anything other than the fact of an event or a quotation later checked against the record; and AI-generated summaries of documents where the document itself could be read. Where a source could not be reached the text says so and the editorial notes of each Part list it.

Section 28 — How to validate this report

28.1 The problem with an unattributed report

This report carries no author's name and no organisation's badge. That is deliberate — it is intended to be judged on its content, and to be usable by any reader without adopting anyone's standing or interest — but it creates an obvious difficulty. A reader cannot ask who wrote it, what qualifications they hold, or what interest they have, and cannot therefore use those things as a shortcut to trusting or distrusting it. The report has to earn its credibility another way: by being checkable. Everything in it that matters is either a quotation from a public source, a figure from a public source, or a figure derived from public sources by a stated method with stated assumptions; and the source, the figure and the method are given so that a reader can test them. A report that can be checked and has been checked is worth more than a signature; a report that cannot be checked is worth no more than its signature, whoever's it is.

28.2 The referencing approach

The report uses the following conventions throughout, and a reader who understands them can test any passage.

Numbered references. Each section carries its own numbered list, and each reference gives enough to find the source: author or body, title, document reference or paragraph number where one exists, date, and a web address where the source is online. Legislation is cited to legislation.gov.uk by section or regulation. Planning Inspectorate documents are cited by their register number (for example EN0710001-000018 for the Scoping Opinion) and, for the Scoping Opinion, by the identifier of the paragraph quoted (for example ID 3.3.27). Council decisions are cited to the minute or report on the council's own website. Published papers are cited by journal, volume, year and, where available, a digital object identifier or open-access address.

Quotations. Text in quotation marks is reproduced from the source as written. Where a quotation has been shortened, an ellipsis (…) marks the omission; where a source contains an error, "[sic]" marks it. A quotation is attributed to the body whose document it comes from — a consultee's comment in an appendix to the Scoping Opinion is attributed to the consultee, not to the Inspectorate.

Derived figures. A figure marked *(derived)* has been calculated for this report rather than taken from a source. The assumptions are stated at the point of use or in a note to the table, and the calculation is described in enough detail to be repeated. Derived figures are offered for orientation and scale, not as findings, and the text says so.

Labelled sources. Statements by the applicant, by trade bodies and by companies are labelled as company or trade-body statements. Press reports are used only for events — a meeting, a vote, a statement — and are labelled as press; where a council minute or an official record has been obtained, it replaces the press report. Sources have been selected for quality: peer-reviewed journals and recognised research bodies for science and engineering; primary legislation, guidance and official records for law and process; and no source whose standing could not be established.

Compiler's notes. Appendix I lists, Part by Part, the items the compiler could not verify from the primary source, with the reason. Those lists are the honest boundary of the report's checking, and a reader who wishes to complete the checking should start there.

Bold text. Key findings are set in bold so that they are not lost in the detail. Bold marks importance, not certainty; each bold sentence carries the same references and qualifications as the text around it.

Corrections. The report is a working document. Errors found after issue are corrected by an addendum or a re-issue with a new date in the filename, and the change is recorded in the editorial notes, so that a reader holding an earlier version can see what changed.

28.3 Validation using an AI model

The checking that the conventions above make possible is, for a document of this length, a substantial task by hand. It is now a quick one with any of the current frontier AI models that can read documents and fetch web pages. No particular model or provider is proposed, and that is deliberate: there is neither a need nor a desire to influence the reader's choice of validation method, and a check is more persuasive when the reader has chosen the tool. The models offered by the major providers are all capable of the task, and the method below is written so that it works with any of them; a reader who prefers to check by hand, or to use two models and compare them, loses nothing by doing so. The reader supplies the report (or one Part or section of it) and the prompt; the model fetches each cited source, compares the report's quotations and figures with the source, and reports what matches, what does not, and what it could not reach. The reader then decides what weight to give the report on that basis. The exercise costs little or nothing and does not require the reader to trust the report, its compiler, or the model: the model's output is itself a list of claims with sources that the reader can spot-check.

Three cautions. First, a model can only check sources it can reach; some council and Inspectorate pages block automated access, and some journals are paywalled, so a proportion of "could not check" results is normal and is not evidence against the report. The prompt below gives alternative addresses for the sources most often blocked. Second, a model can make its own mistakes — including declaring a quotation absent when it has read a truncated page, or reporting a reference as unused when it is cited in a form the model did not recognise. A finding of a discrepancy is a reason to look at the source oneself, not a conclusion. Third, and most important in practice: **given a long document and a general instruction, a model will sample.** It will check a dozen or so sources it finds convenient, report on those, and describe the rest in general terms, and a free-tier model with a small working memory will do so more than a paid one. A check of that kind is worth having but is not a validation of the report. The prompt below is therefore written in two stages — first a complete register of every numbered reference, then the checking of each row — and asks for the register to be returned before any checking starts, so that the reader can see that nothing has been skipped. Where the model's working memory is too small for a whole Part, the reader should give it one section at a time; each section carries its own reference list and can be checked on its own.

28.4 A suggested validation prompt

The text below can be pasted into any AI assistant that accepts documents and can browse the web, together with the Part or section of the report to be checked. It makes no assumption about which provider is used. Where the assistant cannot browse, it can still complete Stage 1 and items 4 to 6 of Stage 2, and should say that it could not check sources.

> **Validation task.** I am attaching a briefing document (or a section of one) on a proposed UK infrastructure project. It is unattributed, so I want to test its reliability from its content alone. Please act as an independent verifier. Do not summarise the document and do not offer an opinion on the merits of the project; confine yourself to the checks below. **Do not sample.** Every numbered reference in the material I have given you is to be checked, and the output must show me, reference by reference, what was checked and with what result. If the material is too long for you to do this in one pass, tell me so and do it one section at a time, completing each section before moving to the next.
>
> **Stage 1 — Build the register before checking anything.** For each section in the material, list every entry in its numbered reference list as a row: section number, reference number, the source as cited, the web address given, and the passages in the section that cite it (quote the first few words of each). Include every row even where the same source is cited in more than one section. Return this register to me, with a count of rows, before starting Stage 2. Do not omit rows because a source looks routine or because it is cited elsewhere.
>
> **Stage 2 — Check each row.** Work through the register in order. For each row, fetch the address given. If it does not respond, try, in this order: (a) the same document on an alternative host — for Planning Inspectorate register documents, nsip-documents.planninginspectorate.gov.uk/published-documents/ followed by the register

number (for example EN0710001-000018), or the project's documents page; for legislation, the "point in time" version on legislation.gov.uk for the date stated; for gov.uk publications, the HTML ("accessible") version and the PDF; for Hansard, hansard.parliament.uk by date and debate title; for council documents, the council's "moderngov" or committee pages by meeting date — (b) a search for the document by its exact title and reference number; and (c) any other copy of the same document from an official or publisher host. Record which address you finally used. Then, against that source, check:

1. **Quotations.** Each passage in quotation marks attributed to that source: CONFIRMED (verbatim), DISCREPANT (quote both versions), MISATTRIBUTED (the words exist but in a different source or from a different body), or UNREACHABLE (say why, and which addresses you tried). A paraphrase in the source does not confirm a verbatim quotation.
2. **Figures, dates and references.** Each number, date, statutory time limit, paragraph number, vote count and document reference attributed to that source, checked the same way. Where the document marks a figure as *(derived)*, check that the assumptions are stated and, if you can, repeat the calculation and report your result.
3. **Statements of law and policy.** Each statement of what the cited provision or policy requires: ACCURATE, OVERSTATED, UNDERSTATED or OUT OF DATE, with the date to which the official site says the text is current.

When every row in a section has been checked, complete the following for that section:

4. **Reference integrity.** Every reference number cited in the text appears in the list, and every listed reference is cited (citations may take the form [5], [5][6], [5, para 3.2] or [5–7]); cross-references to tables, sections and appendices point to something that exists.
5. **Internal consistency.** Any place where the document states the same fact differently elsewhere (dates, figures, names, the wording of a quotation).
6. **Balance and tone.** Any sentence that reads as advocacy for or against the project, or that draws a conclusion on the merits rather than describing evidence, a legal framework or a procedure. Quote it. The document claims to take no position on the merits; test that claim, and distinguish it from guidance on procedure, which the document says it does give.
7. **Source quality.** For each source, classify it as primary (legislation, official record, the applicant's own document, a peer-reviewed paper), secondary (guidance, research-body report, parliamentary research briefing, recognised reference work), press, or company/trade-body statement, and say whether the document labels it consistently with that classification. Flag any source whose reliability you doubt and say why.

Output. (i) The Stage 1 register, with its row count. (ii) A results table with one row per register entry: section, reference number, address used, and the result for each of items 1 to 3 (CONFIRMED / DISCREPANT / MISATTRIBUTED / UNREACHABLE / NOT APPLICABLE), so that I can see that every row was checked. (iii) Totals by result. (iv) The discrepant and misattributed items in full, most serious first, each with the document's text, the source's text and the location in the document. (v) The unreachable items, each with the addresses tried. (vi) Findings under items 4 to 7. Be precise; do not soften or round; do not report a finding you have not verified; and do not describe a category of sources as "generally confirmed" — each row has its own result.

28.5 What a good result looks like

A report of this kind will not come back perfect. Long documents built from hundreds of sources contain transcription slips, and some sources will have moved or changed. What the reader should look for is the pattern: quotations that are verbatim or trivially different; figures that match; derived figures that can be repeated; discrepancies that are minor, isolated and corrected in the next issue; and an editorial-notes list that already identifies what could not be checked. A pattern of invented quotations, figures without sources, or sources that do not say what they are said to say would be a reason to set the report aside, whoever wrote it. The compiler has run this check on each Part before issue and corrected what it found, and a reader's independent run on the first issue of this volume produced the corrections recorded in Appendix I; the reader is invited to run it again.

Appendix A — The corridor by district and parish

This appendix lists the principal local authorities the applicant names for each route section, and the parish, town and community councils that the Planning Inspectorate consulted on the EIA scoping request in January 2026 as "the relevant parish council" for the scoping boundary. The Inspectorate's list (Appendix 1 to the Scoping Opinion, EN0710001-000018) is a single list; its grouping by principal authority below is the compiler's and should be checked against each council's own records. Consultation on scoping does not mean the pipeline crosses the parish: the scoping boundary is wider than the corridor and the corridor is wider than the pipeline. Names are as printed by the Inspectorate, except that town councils are so described where the Inspectorate printed "parish council". The † marking is applied to Derbyshire parishes only; a number of Cheshire East and Staffordshire Moorlands parishes (for example Rainow, Kettleshulme and Lyme Handley, Pott Shrigley, Quarnford, Heathylee, Fawfieldhead, Warslow and Elkstones, Onecote, Butterton, Grindon, Wetton, Ilam and Waterhouses) also lie wholly or partly within the National Park and are not marked. A parish that does not appear here may still be affected by construction traffic, compounds or above-ground installations; a parish that does appear may find the corridor dropped from its area when it is narrowed to 100 m.

A.1 Derbyshire — Derbyshire County Council; High Peak Borough Council; Derbyshire Dales District Council; Peak District National Park Authority (planning authority within the Park)

Route sections 1, 2 and 3 (Hope and Tunstead to the North Feeder AGI south of Chapel-en-le-Frith, and on towards Macclesfield). The Inspectorate records that "Peak Cluster Pipeline (East) is located within the Peak District National Park".

High Peak (parishes wholly or partly within the National Park marked †): Hayfield†; Edale†; Green Fairfield; Wormhill†; Peak Forest†; Castleton†; Hope†; Aston†; King Sterndale†; Thornhill†; Hartington Upper Quarter†; Chapel-en-le-Frith†; Whaley Bridge Town Council; Chinley, Buxworth and Brownside†; New Mills; Hope Woodlands†; Bradwell†.

Derbyshire Dales: Taddington†; Tideswell†; Litton†; Little Hucklow†; Great Hucklow†; Abney and Abney Grange†.

A.2 Staffordshire — Staffordshire County Council; Staffordshire Moorlands District Council (local government reorganisation: new unitary authorities from April 2028 — Part E, Section 18)

Route section 4 (Cauldon to the Central Feeder AGI south-west of Macclesfield).

Quarnford; Leekfrith; Biddulph Town Council; Horton; Rushton; Heaton; Kingsley; Cheddleton; Ipstones; Onecote; Warslow and Elkstones; Consall; Cotton; Leek Town Council; Bradnop; Waterhouses; Grindon; Butterton; Wetton; Ilam; Heathylee; Fawfieldhead; Brown Edge; Endon and Stanley; Longsdon; Tittesworth; Wootton; Stanton. (Kidsgrove Town Council, also consulted, is in Newcastle-under-Lyme borough.)

A.3 Cheshire East Council (unitary)

Route sections 3, 4, 5 and 6 (the Central Feeder AGI south-west of Macclesfield; Connection AGI 1 north-west of Holmes Chapel; Cranage to Tarporley).

Brereton; Macclesfield Town Council; Crewe Town Council; Haslington; Odd Rode; Moreton cum Alcumlow; Newbold Astbury; Moston; Cranage; Peover Superior and Snelson; Swettenham; Lower Withington; Siddington; Congleton Town Council; Henbury; Gawsworth; Sutton; Nether Alderley; Marthall; Wilmslow Town Council; Over Alderley; Prestbury; Rainow; Disley; Wardle; Bunbury; Alpraham and Calveley Community Council; Stoke and Hurleston; Cholmondeston and Wettenhall; Aston juxta Mondrum; Poole; Church Minshull; Leighton and Minshull Vernon; Warmingham; Sandbach Town Council; Middlewich; Bradwall; Holmes Chapel; Somerford; Somerford Booths and Hulme Walfield; Eaton; Marton; Twemlow; Goostrey; Chelford; North Rode; Bosley; Great Warford; Chorley; Alderley Edge; Bollington Town Council; Mottram St Andrew; Adlington; Pott Shrigley; Kettleshulme and Lyme Handley; Poynton with Worth; Higher Hurdsfield; Little Warford.

A.4 Cheshire West and Chester Council (unitary)

Route sections 5 to 8 (Holmes Chapel area to Tarporley, Picton and Willaston; Connection AGIs 2 and 3 near Ellesmere Port).

Tattenhall and District; Tiverton and Tilstone Fearnall; Allostock; Rushton; Little Budworth; Darnhall; Winsford Town Council; Sproston; Beeston; Tarporley; Bostock; Davenham; Lach Dennis and Lostock Green; Backford; Little Stanney; Barrow; Thornton-le-Moors; Dunham-on-the-Hill and Hapsford; Elton; Clotton Hoofield; Duddon and Burton; Willington; Golborne David; Rowton; Littleton; Croughton; Ince; Moston; Moulton; Aldford and Saighton; Saughall and Shotwick Park; Christleton; Mickle Trafford and District; Neston Town Council; Hargrave and Huxley; Tarvin; Utkinton and Cotebrook; Whitegate and Marton; Puddington; Ledsham; Huntington; Great Boughton; Waverton; Guilden Sutton; Mollington; Upton-by-Chester; Lea-by-Backford; Capenhurst; Frodsham Town Council. (Hale Parish Council, also consulted, is in Halton. “Rushton” and “Moston” each appear twice in the Inspectorate’s list: there is a parish of each name in Cheshire West and Chester and another in Staffordshire Moorlands and Cheshire East respectively.)

A.5 Wirral Council (unitary; unparished)

Route sections 9 and 10 (Willaston to Leasowe, the Coastal AGI in the landfall or inland zone, and the pipelines to mean low water at the shoreline gap “between the Park Lane Holiday Homes and Leasowe Lighthouse”). No parish councils exist; the Scoping Report names “the settlements of Meols, Greasby, and Moreton” as nearby.

A.6 Flintshire (Wales) — consulted as a neighbouring authority for cumulative and transboundary effects

Flint Town Council; Sealand Community Council; Connah’s Quay Town Council; Bagillt Community Council; Holywell Town Council; Mostyn Community Council.

Sources: Peak Cluster, Project Guide, January 2026 (route sections and authorities); Planning Inspectorate, Scoping Opinion EN0710001-000018, Appendix 1, Table A1 (“The relevant parish council”) and Appendix 2; Scoping Report Volume 1, paragraphs 2.6.1, 3.2.131 and 5.4.12. National Park membership from the Peak District National Park Authority’s parish list (compiler’s attribution).

Appendix B — Project chronology, 2021 to date

Each entry gives its source and label: [P] primary record; [C] company statement; [S] press. Dates of council decisions are the meeting dates; dates of company announcements are the release dates.

Date	Event	Source
15 Dec 2021	Summit Energy Evolution Limited incorporated (Sumitomo Corporation, 75%+)	[P] Companies House 13802203
31 Jan 2023	Spirit Energy announces plan for carbon storage in the Morecambe fields, “up to one gigaton”	[C] Spirit Energy
17 May 2023	Peak Cluster launched: “initiated by five cement and lime plants … owned by Tarmac, Breedon, Lhoist and Aggregate Industries, together with the Lostock Sustainable Energy Plant in Cheshire”; Progressive Energy as developer	[C] peakcluster.co.uk
18 May 2023	Spirit Energy welcomes NSTA carbon-storage licence award	[C] Centrica
1 Jul 2023	Licence CS010 start date; appraisal term four years six months	[P] NSTA
28 Sep 2023	Memorandum of understanding, Morecambe Net Zero and Peak Cluster	[S] trade press
19 Oct 2023	Progressive Energy Peak Limited incorporated	[P] Companies House 15221621
15 Nov 2023	Peak Cluster Limited incorporated; £1 capital; Progressive Energy Peak Ltd registered as person with significant control	[P] Companies House 15286950
29 Jan 2024	Inspectorate inception meeting: “approximately 200km”; “north and south pipeline route options”; scoping request planned Q3 2024; “anticipated DCO submission of Q1–Q3 2026”	[P] EN0710001-000002
18 Apr 2024	SigmaRoc completes acquisition of Buxton Lime	[C] Buxton Lime
1 Jul 2024	Inspectorate update meeting: GIS least-constrained-corridor method; western corridor confirmed; “two main options” for the eastern corridor; route options “run past” Lostock with possible future connection; SigmaRoc “joined the project as a new partner”; store to be	[P] EN0710001-000004

Date	Event	Source
	Morecambe Net Zero	
7–8 Jul 2025	£59.6m equity raise: National Wealth Fund £28.6m; Sumitomo/Progressive joint venture and the four producers £31m; new board; NWF registered as person with significant control from 14 Jul	[P] NWF; HM Treasury; Companies House
29 Aug 2025	Joint venture vehicle renamed Summit Progressive Peak Limited	[P] Companies House
6 Jan 2026	EN-1 (2025 revision) published; CCS pipelines “critical national priority”	[P] DESNZ
12 Jan 2026	EIA Scoping Report submitted; Phase 1 consultation opens	[C] Programme Document; Project Guide
3 Feb 2026	Press report that Lhoist has withdrawn and Buxton Lime will not connect Hindlow	[S] Derbyshire Times
19 Feb 2026	Scoping Opinion adopted	[P] EN0710001-000018
26 Feb 2026	Cranage Parish Council formally objects	[P] parish website
27 Feb 2026	Phase 1 consultation closes	[C]
3 Mar 2026	Gawsworth Parish Council resolves “strong objection”	[S] community website
6 Mar 2026	Share allotment; capital £17.648m	[P] Companies House
9 Mar 2026	Wirral Council extraordinary meeting: three motions, each 56:0 with one abstention, opposing the routing through the Wirral and asking the Government to cancel the project	[P] Wirral minutes
10 Mar 2026	Pipelines Safety Regulations amendment (SI 2026/185) made; in force 6 Apr 2026: CO_2 for CCS “in any fluid state” a dangerous fluid	[P] legislation.gov.uk
25 Mar 2026	Derbyshire County Council: “cannot support the Peak Cluster carbon dioxide pipeline”	[P] Derbyshire minutes
26 Mar 2026	Two directors resign, two appointed	[P] Companies House
31 Mar–8 May 2026	Additional engagement on the Wirral	[C] consultation website
21 Apr 2026	Cheshire West and Chester Council motion to oppose reported passed “near unanimously”	[S] party website; press
30 Apr 2026	Cheshire East Corporate	[S] press; agenda

Date	Event	Source
	Policy Committee: officer update; northern Middlewich option “the most viable option to take forward”	
22 May 2026	Government written answers: no funding committed; no cost information held	[P] Hansard
8 Jun 2026	Host local authorities able to recover costs from applicants (SI 2026/513)	[P] legislation.gov.uk
9 Jun 2026	Spirit Energy enters the “Assess Phase” of licence CS010	[C] Centrica
15 Jun 2026	Commons adjournment debate, “Carbon Capture Pipeline Projects: Cheshire”	[P] Hansard vol. 787
15 Jul 2026	Cheshire East Council: motion to oppose referred to Cabinet	[S] press
15 Jul 2026	Westminster Hall debate, “Peak Cluster Pipeline and Project”	[P] Hansard vol. 789
16 Jul 2026	Staffordshire County Council motion: engagement, not opposition	[P] Staffordshire minutes
17 Jul 2026	Written answer: project “not identified as one of the four … clusters”; “no decision has been taken on future government support”	[P] Hansard UIN 16872
24 Jul 2026	Planning and Infrastructure Act 2025 pre-application provisions in force: statutory consultation duties repealed; section 53 reformed	[P] SI 2026/641; SI 2026/737
Aug 2026	Inspectorate section 51 advice on survey-access powers published on the project’s advice register	[P] Inspectorate
18 Aug 2026	Chester Zoo statement: regional environmental impacts “as proposed, are unacceptable”	[C] Chester Zoo
9 Sep 2026	Wirral Council Policy and Resources Committee refuses survey-access licences (reported unanimous)	[P] committee report; [S] ITV 10 Sep
Late 2026	Phase 2 engagement promised	[C]
Sep 2027	Application “expected to be submitted”	[P] Inspectorate project page
by mid-2027	Storage permit application due under licence CS010 work programme	[P] NSTA

Sources are those cited in Sections 2, 3 and 4 and in Part E, Section 19. Where a date is a press report the entry says so.

Appendix C — Key statutory extracts

The provisions most often referred to in this report, as displayed on legislation.gov.uk on 10 September 2026. The live page is authoritative and should be consulted before any provision is relied on; each extract gives the page's own statement of the date to which it is current. Amendment markers and footnotes are not reproduced. Provisions in force from 24 July 2026 (Planning Act 2008 ss.46, 48, 50, 53 and 55 as amended) are given in their amended form. Section 20 of the Pipelines Safety Regulations is included in addition to the provisions listed in the index because it, not regulation 22, carries the duty to notify HSE before construction.

C.1 Planning Act 2008, s.14 — Nationally significant infrastructure projects: general

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/14 Changes to legislation / revised to: “Planning Act 2008, Section 14 is up to date with all changes known to be in force on or before 09 September 2026.”

14 Nationally significant infrastructure projects: general

(1) In this Act “nationally significant infrastructure project” means a project which consists of any of the following—

(a) the construction or extension of a generating station;

(b) the installation of an electric line above ground;

(c) development relating to underground gas storage facilities;

(d) the construction or alteration of an LNG facility;

(e) the construction or alteration of a gas reception facility;

(f) the construction of a pipe-line by a gas transporter;

(g) the construction of a pipe-line other than by a gas transporter;

(h) highway-related development;

(i) airport-related development;

(j) the construction or alteration of harbour facilities;

(k) the construction or alteration of a railway;

(l) the construction or alteration of a rail freight interchange;

(m) the construction or alteration of a dam or reservoir;

(n) development relating to the transfer of water resources;

(na) the construction or alteration of a desalination plant;

(o) the construction or alteration of a waste water treatment plant or of infrastructure for the transfer or storage of waste water;

(p) the construction or alteration of a hazardous waste facility;

(q) development relating to a radioactive waste geological disposal facility.

(2) Subsection (1) is subject to sections 15 to 30A.

(3) The Secretary of State may by order—

(a) amend subsection (1) to add a new type of project or vary or remove an existing type of project;

(b) make further provision, or amend or repeal existing provision, about the types of project which are, and are not, within subsection (1).

(3A) An order under subsection (3)(a) may also amend section 6(7)(a) of the Public Order Act 2023 (obstruction etc of major transport works).

(4) An order under subsection (3)(b) may amend this Act.

(5) The power conferred by subsection (3) may be exercised to add a new type of project to subsection (1) only if—

(a) a project of the new type is a project for the carrying out of works in one or more of the fields specified in subsection (6), and

(b) the works are to be carried out wholly in one or more of the areas specified in subsection (7).

(6) The fields are—

(a) energy;

(b) transport;

(c) water;

(d) waste water;

(e) waste.

(7) The areas are—

(a) England;

(b) waters adjacent to England up to the seaward limits of the territorial sea;

(c) in the case of a project for the carrying out of works in the field of energy, a Renewable Energy Zone, except any part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions.

C.1 (cont.) Planning Act 2008, s.21 — Other pipe-lines

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/21 Changes to legislation / revised to: Page shown as “Latest available (Revised)” version; the fetch tool reported that the page notes outstanding changes yet to be applied in its “Changes to Legislation” section and did not return an explicit “up to date … on or before [date]” line. (Fetched 10 September 2026.)

21 Other pipe-lines E+W+S

(1) The construction of a pipe-line other than by a gas transporter is within section 14(1)(g) only if (when constructed) the pipe-line is expected to be—

(a) a cross-country pipe-line,

(b) a pipe-line the construction of which would (but for section 33(1) of this Act) require authorisation under section 1(1) of the Pipe-lines Act 1962 (c. 58) (cross-country pipe-lines not to be constructed without authorisation), and

(c) within subsection (2).

(2) A pipe-line is within this subsection if one end of it is in England or Wales and—

(a) the other end of it is in England or Wales, or

(b) it is an oil or gas pipe-line and the other end of it is in Scotland.

(3) For the purposes of section 14(1)(g) and the previous provisions of this section, the construction of a diversion to a pipe-line is treated as the construction of a separate pipe-line.

(4) But if—

(a) the pipe-line to be diverted is itself a nationally significant pipe-line, and

(b) the length of the pipe-line which is to be diverted has not been constructed,

the construction of the diversion is treated as the construction of a cross-country pipe-line, whatever the length of the diversion.

(5) For the purposes of subsection (4), a pipe-line is a nationally significant pipe-line if—

(a) development consent is required for its construction by virtue of section 14(1)(g), and has been granted, or

(b) its construction has been authorised by a pipe-line construction authorisation under section 1(1) of the Pipe-lines Act 1962 (c. 58).

(6) “Diversion” means a lateral diversion of a length of a pipe-line (whether or not that pipe-line has been constructed) where the diversion is beyond the permitted limits.

(7) The permitted limits are the limits of lateral diversion permitted by any of the following granted in respect of the construction of the pipe-line—

(a) development consent;

(b) authorisation under the Pipe-lines Act 1962;

(c) planning permission.

C.2 Planning Act 2008, s.35 — Directions in relation to projects of national significance

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/35 Changes to legislation / revised to: “Planning Act 2008, Section 35 is up to date with all changes known to be in force on or before 14 July 2026.”

35 Directions in relation to projects of national significance

(1) The Secretary of State may give a direction for development to be treated as development for which development consent is required.

This is subject to the following provisions of this section and section 35ZA.

(2) The Secretary of State may give a direction under subsection (1) only if—

(a) the development is or forms part of—

(b) a project (or proposed project) in the field of energy, transport, water, waste water or waste, or

(ii) a business or commercial project (or proposed project) of a prescribed description,

(b) the development will (when completed) be wholly in one or more of the areas specified in subsection (3), and

(c) the Secretary of State thinks the project (or proposed project) is of national significance, either by itself or when considered with—

(d) in a case within paragraph (a)(i), one or more other projects (or proposed projects) in the same field;

(ii) in a case within paragraph (a)(ii), one or more other business or commercial projects (or proposed projects) of a description prescribed under paragraph (a)(ii).

(3) The areas are—

(a) England or waters adjacent to England up to the seaward limits of the territorial sea;

(b) in the case of a project for the carrying out of works in the field of energy, a Renewable Energy Zone, except any part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions.

(4) The Secretary of State may give a direction under subsection (1) only with the consent of the Mayor of London if—

(a) all or part of the development is or will be in Greater London, and

(b) the development is or forms part of a business or commercial project (or proposed project) of a description prescribed under subsection (2)(a)(ii).

(5) Regulations under subsection (2)(a)(ii) may not prescribe a description of project which includes the construction of one or more dwellings.

C.3 Planning Act 2008, s.46 — Duty to notify Secretary of State and others of proposed application

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/46 Changes to legislation / revised to: “Planning Act 2008, Section 46 is up to date with all changes known to be in force on or before 08 September 2026.”

46 Duty to notify Secretary of State and others of proposed application

(1) The applicant must supply to the Secretary of State—

(a) the information specified in subsection (1C), and

(b) such further information as may be prescribed.

(1A) The applicant must supply to each host local authority—

(a) the information specified in subsection (1C), and

(b) such further information as may be prescribed.

(1B) In any case where the proposed development would affect, or would be likely to affect, any of the areas specified in subsection (5), the applicant must supply to the Marine Management Organisation—

(a) the information specified in subsection (1C), and

(b) such further information as may be prescribed.

(1C) The information referred to in subsections (1)(a), (1A)(a) and (1B)(a) is as follows—

(a) the applicant’s name and address,

(b) a statement that the applicant intends to apply for an order granting development consent,

(c) a statement about why development consent is required for the proposed development, specifying the relevant provision of Part 3 (or referring to a direction that has been given under section 35), and

(d) a summary of the proposed application, specifying the location or route of the proposed development.

(2) . . . . . [shown on page as omitted/repealed]

(3) A local authority is a “host local authority” if the land is in the authority’s area.

(4) In this section “local authority” means—

(a) a county council, or district council, in England;

(b) a London borough council;

(c) the Common Council of the City of London;

(d) the Council of the Isles of Scilly;

(e) a county council, or county borough council, in Wales;

(f) a council constituted under section 2 of the Local Government etc (Scotland) Act 1994;

(g) a National Park authority;

(h) the Broads Authority.

(5) The areas referred to in subsection (1B) are—

(a) waters in or adjacent to England up to the seaward limits of the territorial sea;

(b) an exclusive economic zone, except any part of an exclusive economic zone in relation to which the Scottish Ministers have functions;

(c) a Renewable Energy Zone, except any part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions;

(d) an area designated under section 1(7) of the Continental Shelf Act 1964, except any part of that area which is within a part of an exclusive economic zone or Renewable Energy Zone in relation to which the Scottish Ministers have functions.

C.4 Planning Act 2008, s.48 — Duty to publicise

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/48 Changes to legislation / revised to: “Planning Act 2008, Section 48 is up to date with all changes known to be in force on or before 09 September 2026.” Page annotation (as reported by fetch tool): subsection (2) omitted (24.7.2026) by Planning and Infrastructure Act 2025 (c. 34), ss. 6(6), 118(1)(c); S.I. 2026/641, reg. 3(c).

48 Duty to publicise E+W+S

(1) The applicant must publicise the proposed application in the prescribed manner.

(2) . . . . . .

C.5 Planning Act 2008, s.50 — Guidance about pre-application steps (as substituted 24 July 2026)

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/50/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/50) Changes to legislation / revised to: “Point in time view as at 10/09/2026.” Amendment annotation: “S. 50 substituted (24.7.2026) by Planning and Infrastructure Act 2025 (c. 34), ss. 6(7), 118(1)(c).” (Note: a first fetch of the base URL on 10 September 2026 returned the pre-substitution text — “50 Guidance about pre-application procedure”: (1) Guidance may be issued about how to comply with the requirements of this Chapter. (2) Guidance under this section may be issued by the Secretary of State. (3) The applicant must have regard to any guidance under this section. — with a notice that the substitution by 2025 c. 34, s. 6(7) had not yet been applied by the editorial team. The point-in-time page shows the substituted text below.)

50 Guidance about pre-application steps E+W+S

(1) Applicants must have regard to any guidance issued by the Secretary of State to assist them in complying with section 48.

(2) The Secretary of State must issue guidance to assist applicants, setting out what the Secretary of State considers to be best practice in terms of the steps they might take in relation to a proposed application in readiness for submitting an actual application.

C.6 Planning Act 2008, s.51 — Advice for potential applicants and others

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/51 Changes to legislation / revised to: “Planning Act 2008, Section 51 is up to date with all changes known to be in force on or before 10 September 2026.”

51 Advice for potential applicants and others

(1) This section applies to advice about—

(a) applying for an order granting development consent;

(b) making representations about an application, or a proposed application, for such an order.

(2) . . . . . [not returned by fetch tool; shown on page as omitted/repealed — page F-notes (as reported by fetch tool on a second fetch of https://www.legislation.gov.uk/ukpga/2008/29/section/51/2026-09-10) reference the Localism Act 2011 and 2012 commencement orders; no annotations referencing 2025 c. 34]

(3) The Secretary of State may by regulations make provision about the giving of advice to which this section applies.

(4) In particular, regulations under subsection (3) may make provision that has the effect that—

(a) a request for advice made by an applicant, potential applicant or other person, or

(b) advice given to an applicant, potential applicant or other person,

must be, or may be, disclosed by the Secretary of State to other persons or to the public generally.

C.7 Planning Act 2008, s.53 — Rights of entry

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/53 Changes to legislation / revised to: “Planning Act 2008, Section 53 is up to date with all changes known to be in force on or before 09 September 2026.” (Page annotations, as reported by fetch tool, show amendments by the Planning and Infrastructure Act 2025 (c. 34) in force 24.7.2026.)

53 Rights of entry E+W+S

(1) An authorised person may at any reasonable time enter any land for the purpose of surveying and taking levels of it, or in order to facilitate compliance with the provisions mentioned in subsection (1A), in connection with—

(a) an application for an order granting development consent, whether in relation to that or any other land, that has been accepted by the Secretary of State,

(b) a proposed application for an order granting development consent, or

(c) an order granting development consent that includes provision authorising the compulsory acquisition of that land or of an interest in it or right over it.

(1A) Those provisions are any provision of or made under an Act for the purpose of implementing—

(a) Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, as amended from time to time,

(b) Council Directive 92/43/EC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as amended from time to time, or

(c) any EU instrument from time to time replacing all or any part of either of those Directives.

(1B) In subsection (1) “authorised person” means a person who is authorised in writing to exercise the power in that subsection on behalf of—

(a) a person who has made an application for an order granting development consent that has been accepted by the Secretary of State,

(b) a person who proposes to make an application for an order granting development consent, or

(c) a person who has been granted the benefit of an order granting development consent of a kind specified in subsection (1)(c).

(2) . . . . . [shown on page as omitted/repealed]

(3) Subject to subsections (9) and (10), power conferred by subsection (1) to survey land includes power to search and bore for the purpose of ascertaining the nature of the subsoil or the presence of minerals or other matter in it.

(3A) Power conferred by subsection (1) for the purpose of complying with the provisions mentioned in subsection (1A) includes power to take, and process, samples of or from any of the following found on, in or over the land—

(a) water,

(b) air,

(c) soil or rock,

(d) its flora,

(e) bodily excretions, or dead bodies, of non-human creatures, or

(f) any non-living thing present as a result of human action.

(4) A person acting in the exercise of a power of entry onto any land conferred under subsection (1)—

(a) must, if so required, produce evidence of the person's authority, and state the purpose of the person's entry, before so entering, and

(b) may not demand admission as of right to the land unless 14 days' notice of the intended entry has been given to every owner or occupier of the land.

(4A) Notice given in accordance with subsection (4)(b) must include prescribed information.

(4B) A justice of the peace may issue a warrant authorising a person to use force in the exercise of the power conferred under subsection (1) if satisfied—

(a) that another person has prevented or is likely to prevent the exercise of that power, and

(b) that it is reasonable to use force in the exercise of that power.

(4C) The force that may be authorised by a warrant is limited to that which is reasonably necessary.

(4D) A warrant authorising the person to use force must specify the number of occasions on which the person can rely on the warrant when entering land.

(4E) The number specified must be the number which the justice of the peace considers appropriate to achieve the purpose for which the entry is required.

(4F) Any evidence in proceedings for a warrant must be given on oath.

(5) A person commits an offence if the person wilfully obstructs a person acting in the exercise of power under subsection (1).

(6) A person guilty of an offence under subsection (5) is liable on summary conviction to a fine not exceeding level 3 on the standard scale.

(7) Where any damage is caused to land or chattels—

(a) in the exercise of a right of entry conferred under subsection (1), or

(b) in the making of any survey for the purpose of which any such right of entry has been conferred,

compensation may be recovered by any person suffering the damage from the person exercising the right of entry.

(8) Any question of disputed compensation under subsection (7) must be referred to and determined by the Upper Tribunal.

(8A) Section 4 of the Land Compensation Act 1961 (costs) applies to the determination of a question referred under subsection (8) as it applies to the determination of a question under section 1 of that Act, but as if references to the acquiring authority were references to the person from whom compensation is claimed.

(9) No person may carry out under subsection (1) any works authorised by virtue of subsection (3) unless notice of the person's intention to do so was included in the notice required by subsection (4)(b).

(10) The authority of the appropriate Minister is required for the carrying out under subsection (1) of works authorised by virtue of subsection (3) if—

(a) the land in question is held by statutory undertakers, and

(b) they object to the proposed works on the ground that execution of the works would be seriously detrimental to the carrying-on of their undertaking.

(11) In subsection (10)—

“the appropriate Minister” means—

(a) in the case of land in Wales held by water or sewerage undertakers, the Welsh Ministers, and

(b) in any other case, the Secretary of State;

“statutory undertakers” means persons who are, or who are deemed to be, statutory undertakers for the purposes of any provision of Part 11 of TCPA 1990.

C.8 Planning Act 2008, s.55 — Acceptance of applications

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/55/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/55) Changes to legislation / revised to: “Planning Act 2008, Section 55 is up to date with all changes known to be in force on or before 10 September 2026. There are changes that may be brought into force at a future date.” Textual amendment annotations referencing 2025 c. 34 (as reported by fetch tool): F4 s. 55(3)(ca) inserted (24.7.2026); F6 s. 55(3)(e) omitted (24.7.2026); F8 s. 55(4)(4A) substituted (24.7.2026); F9 s. 55(5) omitted (24.7.2026); F10 s. 55(5A) omitted (24.7.2026); F11 s. 55(6)(7) substituted (24.7.2026).

55 Acceptance of applications E+W+S

(1) The following provisions of this section apply where the Secretary of State receives an application that purports to be an application for an order granting development consent.

(2) The Secretary of State must, by the end of the period of 28 days beginning with the day after the day on which the Secretary of State receives the application, decide whether or not to accept the application.

(3) The Secretary of State may accept the application only if the Secretary of State concludes—

(a) that it is an application for an order granting development consent,

(b) . . . . . .

(c) that development consent is required for any of the development to which the application relates,

(ca) that the applicant has complied with section 46 (duty to notify Secretary of State and others of proposed application), and

(d) . . . . . .

(e) . . . . . .

(f) that the application (including accompaniments) is of a standard that the Secretary of State considers satisfactory.

(4) The Secretary of State, when deciding whether the Secretary of State may reach the conclusion in subsection (3)(f), must take into account—

(a) the extent to which the application complies with section 37(3) (form and contents of application),

(b) the extent to which any applicable guidance under section 37(4) has been followed in relation to the application,

(c) the extent to which the application complies with any standards set under section 37(5) (standards for documents etc accompanying application),

(d) the applicant’s approach to satisfying section 48 (duty to publicise), and

(e) the extent to which the applicant has had regard to any advice given under section 51 in connection with the application (or the proposed application that has become the application).

(4A) In considering the matter in subsection (4)(d), the Secretary of State must take into account the extent to which the applicant has had regard to any guidance under section 50(1).

(5) . . . . . .

(5A) . . . . . .

(6) The Secretary of State must notify the applicant of the decision under subsection (2).

(7) If the Secretary of State decides under subsection (2) not to accept the application, the Secretary of State must—

(a) prepare a statement of the Secretary of State's reasons for that decision,

(b) provide a copy of the statement to the applicant, and

(c) publish the statement in such form and manner as the Secretary of State thinks appropriate.

(8) If in response the applicant modifies (or further modifies) the application, subsections (2) to (7) then apply in relation to the application as modified.

C.9 Planning Act 2008, s.56 — Notifying persons of accepted application (subsections (1)–(7); (8)–(9) also captured)

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/56/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/56) Changes to legislation / revised to: “Planning Act 2008, Section 56 is up to date with all changes known to be in force on or before 10 September 2026.”

56 Notifying persons of accepted application E+W+S

(1) Subsections (2), (6) and (7) apply where the Secretary of State accepts an application for an order granting development consent.

(2) The applicant must give notice of the application to—

(a) such persons as may be prescribed,

(aa) the Marine Management Organisation, in any case where the development for which the application seeks development consent would involve the carrying on of any activity in one or more of the areas specified in subsection (2A),

(b) each local authority that is within section 56A,

(c) the Greater London Authority if the land to which the application relates, or any part of it, is in Greater London, and

(d) each person who is within one or more of the categories set out in section 57.

(2A) The areas are—

(a) waters in or adjacent to England up to the seaward limits of the territorial sea;

(b) an exclusive economic zone, except any part of an exclusive economic zone in relation to which the Scottish Ministers have functions;

(c) a Renewable Energy Zone, except any part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions;

(d) an area designated under section 1(7) of the Continental Shelf Act 1964, except any part of that area which is within a part of an exclusive economic zone or Renewable Energy Zone in relation to which the Scottish Ministers have functions.

(3) Notice under subsection (2) must be in such form and contain such matter, and be given in such manner, as may be prescribed.

(4) The applicant must, when giving notice to a person under subsection (2), notify the person of the deadline for receipt by the Secretary of State of representations giving notice of the person’s interest in, or objection to, the application.

(5) A deadline notified under subsection (4) must not be earlier than the end of the period of 28 days that begins with the day after the day on which the person receives the notice.

(6) The applicant must make available, to each person to whom notice is given under subsection (2), a copy of—

(a) the application, and

(b) the documents and information that were required by section 37(3)(d) to accompany the application.

(7) The applicant must publicise the application in the prescribed manner.

(8) Regulations made for the purposes of subsection (7) must, in particular, make provision for publicity under subsection (7) to include a deadline for receipt by the Secretary of State of representations giving notice of persons' interests in, or objections to, the application.

(9) A deadline specified in accordance with subsection (8) does not apply to a person to whom notice is given under subsection (2).

C.10 Planning Act 2008, s.60 — Local impact reports

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/60/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/60) Changes to legislation / revised to: “Planning Act 2008, Section 60 is up to date with all changes known to be in force on or before 10 September 2026.”

60 Local impact reports E+W+S

(1) Subsection (2) applies where the Secretary of State—

(a) has accepted an application for an order granting development consent, and

(b) has received—

(c) a certificate under section 58(2) in relation to the application, and

(ii) where section 59 applies, a notice under that section in relation to the application.

(2) The Secretary of State must give notice in writing to each of the following, inviting them to submit a local impact report to the Secretary of State—

(a) each local authority that is within section 56A, and

(b) the Greater London Authority if the land to which the application relates, or any part of it, is in Greater London.

(3) A “local impact report” is a report in writing giving details of the likely impact of the proposed development on the authority’s area (or any part of that area).

(4) “The proposed development” is the development for which the application seeks development consent.

(5) A notice under subsection (2) must specify the deadline for receipt by the Secretary of State of the local impact report.

(6) In preparing a local impact report, an authority must have regard to any relevant guidance issued by the Secretary of State.

(7) But that duty does not apply to an authority for an area that is in Scotland.

C.11 Planning Act 2008, s.102 — Interpretation of Chapter 4: “interested party” and other expressions (subsections (1) and (4); full section captured)

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/102/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/102) Changes to legislation / revised to: “Planning Act 2008, Section 102 is up to date with all changes known to be in force on or before 10 September 2026.”

102 Interpretation of Chapter 4: “interested party” and other expressions E+W+S

(1) For the purposes of this Chapter, a person is an “interested party” if—

(a) the person is the applicant,

(aa) the person has been notified of the acceptance of the application in accordance with section 56(2)(d),

(ab) the Examining authority has under section 102A decided that it considers that the person is within one or more of the categories set out in section 102B,

(ba) the person is the Marine Management Organisation and the development for which the application seeks development consent would involve the carrying on of any activity in one or more of the areas specified in subsection (1A),

(c) the person is a local authority in whose area the land is located,

(ca) the person—

(i) is mentioned in section 88(3)(c) or (d), and

(ii) has notified the Examining authority as mentioned in section 89(2A)(b),

(iii) the person is the Greater London Authority and the land is in Greater London, or

(e) the person has made a relevant representation.

(1ZA) But a person ceases to be an “interested party” for the purposes of this Chapter upon notifying the Examining authority in writing that the person no longer wishes to be an interested party.

(1A) The areas are—

(a) waters in or adjacent to England up to the seaward limits of the territorial sea;

(b) an exclusive economic zone, except any part of an exclusive economic zone in relation to which the Scottish Ministers have functions;

(c) a Renewable Energy Zone, except any part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions;

(d) an area designated under section 1(7) of the Continental Shelf Act 1964, except any part of that area which is within a part of an exclusive economic zone or Renewable Energy Zone in relation to which the Scottish Ministers have functions.

(2) In this Chapter “representation” includes evidence, and references to the making of a representation include the giving of evidence.

(3) . . . . . .

(4) A representation is a relevant representation for the purposes of subsection (1) to the extent that—

(a) it is a representation about the application,

(b) it is made to the Secretary of State in the prescribed form and manner,

(c) it is received by the Secretary of State no later than the deadline that applies under section 56 to the person making it,

(d) it contains material of a prescribed description, and

(e) it does not contain—

(f) material about compensation for compulsory acquisition of land or of an interest in or right over land,

(ii) material about the merits of policy set out in a national policy statement, or

(iii) material that is vexatious or frivolous.

(5) . . . . . .

(6) . . . . . .

(7) . . . . . .

(8) In subsection (1)(c) “local authority” means—

(a) a county council, or district council, in England;

(b) a London borough council;

(c) the Common Council of the City of London;

(d) the Council of the Isles of Scilly;

(e) a county council, or county borough council, in Wales;

(f) a council constituted under section 2 of the Local Government etc. (Scotland) Act 1994 (c. 39);

(g) a National Park authority;

(h) the Broads Authority.

(9) In this section “the land” means the land to which the application relates or any part of that land.

C.12 Planning Act 2008, s.104 — Decisions in cases where national policy statement has effect

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/104/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/104) Changes to legislation / revised to: “Planning Act 2008, Section 104 is up to date with all changes known to be in force on or before 10 September 2026.”

104 Decisions in cases where national policy statement has effect

(1) This section applies in relation to an application for an order granting development consent if a national policy statement has effect in relation to development of the description to which the application relates.

(2) In deciding the application the Secretary of State must have regard to—

(a) any national policy statement which has effect in relation to development of the description to which the application relates (a “relevant national policy statement”),

(aa) the appropriate marine policy documents (if any), determined in accordance with section 59 of the Marine and Coastal Access Act 2009;

(b) any local impact report (within the meaning given by section 60(3)) submitted to the Secretary of State before the deadline specified in a notice under section 60(2),

(c) any matters prescribed in relation to development of the description to which the application relates, and

(d) any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State’s decision.

(3) The Secretary of State must decide the application in accordance with any relevant national policy statement.

(3A) In particular, if a relevant national policy statement contains a biodiversity gain statement under Schedule 2A in relation to development of the description to which the application relates, the Secretary of State may not grant the application unless satisfied that the biodiversity gain objective contained in the statement is met in relation to the development to which the application relates.

(3B) Subsections (3) and (3A) do not apply to the extent that one or more of subsections (4) to (8) applies.

(4) This subsection applies if the Secretary of State is satisfied that deciding the application in accordance with subsection (3) or (3A) would lead to the United Kingdom being in breach of any of its international obligations.

(5) This subsection applies if the Secretary of State is satisfied that deciding the application in accordance with subsection (3) or (3A) would lead to the Secretary of State being in breach of any duty imposed on the Secretary of State by or under any enactment.

(6) This subsection applies if the Secretary of State is satisfied that deciding the application in accordance with subsection (3) or (3A) would be unlawful by virtue of any enactment.

(7) This subsection applies if the Secretary of State is satisfied that the adverse impact of the proposed development would outweigh its benefits.

(8) This subsection applies if the Secretary of State is satisfied that any condition prescribed for deciding an application otherwise than in accordance with subsection (3) or (3A) is met.

(9) For the avoidance of doubt, the fact that any relevant national policy statement identifies a location as suitable (or potentially suitable) for a particular description of development does not prevent one or more of subsections (4) to (8) from applying.

C.13 Planning Act 2008, s.120 — What may be included in order granting development consent (subsections (1)–(5); full section captured)

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/120/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/120) Changes to legislation / revised to: “Planning Act 2008, Section 120 is up to date with all changes known to be in force on or before 10 September 2026.”

120 What may be included in order granting development consent E+W+S

(1) An order granting development consent may impose requirements in connection with the development for which consent is granted.

(2) The requirements may in particular include—

(a) requirements corresponding to conditions which could have been imposed on the grant of any permission, consent or authorisation, or the giving of any notice, which (but for section 33(1)) would have been required for the development;

(b) requirements to obtain the approval of the Secretary of State or any other person, so far as not within paragraph (a);

(c) requirements designed to secure that—

(d) the biodiversity gain objective under Schedule 2A relevant to the development is met;

(ii) any proposals included in the application for the order for the purposes of meeting the biodiversity gain objective are implemented.

(3) An order granting development consent may make provision relating to, or to matters ancillary to, the development for which consent is granted.

(4) The provision that may be made under subsection (3) includes in particular provision for or relating to any of the matters listed in Part 1 of Schedule 5.

(5) An order granting development consent may—

(a) apply, modify or exclude a statutory provision which relates to any matter for which provision may be made in the order;

(b) make such amendments, repeals or revocations of statutory provisions of local application as appear to the Secretary of State to be necessary or expedient in consequence of a provision of the order or in connection with the order;

(c) include any provision that appears to the Secretary of State to be necessary or expedient for giving full effect to any other provision of the order;

(d) include incidental, consequential, supplementary, transitional or transitory provisions and savings.

(6) In subsection (5) “statutory provision” means a provision of an Act or of an instrument made under an Act.

(7) Subsections (3) to (6) are subject to subsection (8) and the following provisions of this Chapter.

(8) With the exception of provision made under subsection (3) for or relating to any of the matters listed in paragraph 32B of Schedule 5, an order granting development consent may not include—

(a) provision creating offences,

(b) provision conferring power to create offences, or

(c) provision changing an existing power to create offences.

(9) To the extent that provision for or relating to a matter may be included in an order granting development consent, none of the following may include any such provision—

(a) an order under section 14 or 16 of the Harbours Act 1964 (c. 40) (orders in relation to harbours, docks and wharves);

(b) an order under section 4(1) of the Gas Act 1965 (c. 36) (order authorising storage of gas in underground strata);

(c) an order under section 1 or 3 of the Transport and Works Act 1992 (c. 42) (orders as to railways, tramways, inland waterways etc.).

C.14 Planning Act 2008, s.122 — Purpose for which compulsory acquisition may be authorised

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/122/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/122) Changes to legislation / revised to: “Planning Act 2008, Section 122 is up to date with all changes known to be in force on or before 10 September 2026.”

122 Purpose for which compulsory acquisition may be authorised E+W+S

(1) An order granting development consent may include provision authorising the compulsory acquisition of land only if the Secretary of State is satisfied that the conditions in subsections (2) and (3) are met.

(2) The condition is that the land—

(a) is required for the development to which the development consent relates,

(b) is required to facilitate or is incidental to that development, or

(c) is replacement land which is to be given in exchange for the order land under section 131 or 132.

(3) The condition is that there is a compelling case in the public interest for the land to be acquired compulsorily.

C.14 (cont.) Planning Act 2008, s.123 — Land to which authorisation of compulsory acquisition can relate (subsections (1)–(4))

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/123/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/123) Changes to legislation / revised to: “Planning Act 2008, Section 123 is up to date with all changes known to be in force on or before 10 September 2026.”

123 Land to which authorisation of compulsory acquisition can relate

(1) An order granting development consent may include provision authorising the compulsory acquisition of land only if the Secretary of State is satisfied that one of the conditions in subsections (2) to (4) is met.

(2) The condition is that the application for the order included a request for compulsory acquisition of the land to be authorised.

(3) The condition is that all persons with an interest in the land consent to the inclusion of the provision.

(4) The condition is that the prescribed procedure has been followed in relation to the land.

C.15 Planning Act 2008, s.161 — Breach of terms of order granting development consent

URL: https://www.legislation.gov.uk/ukpga/2008/29/section/161/2026-09-10 (point-in-time view as at 10/09/2026; base URL https://www.legislation.gov.uk/ukpga/2008/29/section/161) Changes to legislation / revised to: “Planning Act 2008, Section 161 is up to date with all changes known to be in force on or before 10 September 2026.”

161 Breach of terms of order granting development consent E+W+S

(1) A person commits an offence if without reasonable excuse the person—

(a) carries out, or causes to be carried out, development in breach of the terms of an order granting development consent, or

(b) otherwise fails to comply with the terms of an order granting development consent.

(2) Subsection (1) is subject to section 149A(4).

(3) It is a defence for a person charged with an offence under this section to prove that—

(a) the breach or failure to comply occurred only because of an error or omission in the order, and

(b) a correction notice specifying the correction of the error or omission has been issued under paragraph 2 of Schedule 4.

(4) A person guilty of an offence under this section is liable on summary conviction, or on conviction on indictment, to a fine.

(5) . . . . . [shown on page as omitted/repealed]

C.16 Planning and Infrastructure Act 2025, s.5 — Applications for development consent: removal of certain pre-application requirements

URL: https://www.legislation.gov.uk/ukpga/2025/34/section/5 Changes to legislation / revised to: Fetch tool reported “no known outstanding effects for this section” and a page modification date of 1 September 2026. Commencement annotation (as reported): s. 5 not in force at Royal Assent; in force 24.7.2026 by S.I. 2026/641, reg. 3(b) (with transitional provision in reg. 6).

5 Applications for development consent: removal of certain pre-application requirements E+W

Omit the following sections of the Planning Act 2008—

(a) section 42 (duty to consult);

(b) section 43 (local authorities for purposes of section 42(1)(b));

(c) section 44 (categories for purposes of section 42(1)(d));

(d) section 45 (timetable for consultation under section 42);

(e) section 47 (duty to consult local community);

(f) section 49 (duty to take account of responses to consultation and publicity).

C.16 (cont.) Planning and Infrastructure Act 2025, s.11 — Planning Act 2008: right to enter and survey land

URL: https://www.legislation.gov.uk/ukpga/2025/34/section/11 Changes to legislation / revised to: “There are currently no known outstanding effects for the Planning and Infrastructure Act 2025, Section 11.” Commencement annotation (as reported): not in force at Royal Assent (see s. 118(1)(e)); in force at 24.7.2026 by S.I. 2026/641, reg. 3(g).

11 Planning Act 2008: right to enter and survey land

(1) Section 53 of the Planning Act 2008 (rights of entry) is amended as set out in subsections (2) to (7).

(2) In subsection (1), for “Any person duly authorised in writing by the Secretary of State” substitute “An authorised person”.

(3) After subsection (1A) insert—

“(1B) In subsection (1)”authorised person” means a person who is authorised in writing to exercise the power in that subsection on behalf of—

(a) a person who has made an application for an order granting development consent that has been accepted by the Secretary of State,

(b) a person who proposes to make an application for an order granting development consent, or

(c) a person who has been granted the benefit of an order granting development consent of a kind specified in subsection (1)(c).”

(4) Omit subsection (2).

(5) In subsection (4)—

(a) in the words before paragraph (a), for “authorised under subsection (1) to enter any land” substitute “acting in the exercise of a power of entry onto any land conferred under subsection (1)”;

(b) insert “and” at the end of paragraph (a);

(c) in paragraph (b)—

(d) for “any land which is occupied” substitute “the land”;

(ii) for “the occupier” substitute “every owner or occupier of the land”;

(iii) omit “and” at the end of paragraph (b);

(e) omit paragraph (c).

(6) After subsection (4) insert—

“(4A) Notice given in accordance with subsection (4)(b) must include prescribed information.

(4B) A justice of the peace may issue a warrant authorising a person to use force in the exercise of the power conferred under subsection (1) if satisfied—

(a) that another person has prevented or is likely to prevent the exercise of that power, and

(b) that it is reasonable to use force in the exercise of that power.

(4C) The force that may be authorised by a warrant is limited to that which is reasonably necessary.

(4D) A warrant authorising the person to use force must specify the number of occasions on which the person can rely on the warrant when entering land.

(4E) The number specified must be the number which the justice of the peace considers appropriate to achieve the purpose for which the entry is required.

(4F) Any evidence in proceedings for a warrant must be given on oath."

(7) After subsection (8) insert—

"(8A) Section 4 of the Land Compensation Act 1961 (costs) applies to the determination of a question referred under subsection (8) as it applies to the determination of a question under section 1 of that Act, but as if references to the acquiring authority were references to the person from whom compensation is claimed."

(8) In paragraph 7 of Schedule 12 to the Planning Act 2008 (application of Act to Scotland: modifications of section 53)—

(a) after paragraph (za) insert—

"(zb) in subsections (4B) and (4E), the references to a justice of the peace were references to a sheriff or summary sheriff,";

(b) omit "and" at the end of paragraph (b);

(c) after paragraph (b) insert—

"(ba) in subsection (8A)—

(i) the reference to section 4 of the Land Compensation Act 1961 were a reference to sections 9 and 11 of the Land Compensation (Scotland) Act 1963, and

(ii) the reference to section 1 of the Land Compensation Act 1961 were a reference to section 8 of the Land Compensation (Scotland) Act 1963, and".

(9) In the Localism Act 2011—

(a) omit section 136(4);

(b) in paragraph 12 of Schedule 13—

(c) in sub-paragraph (2), omit "and (2)";

(ii) omit sub-paragraph (3).

C.17 Housing and Planning Act 2016, s.172 — Right to enter and survey land

URL: https://www.legislation.gov.uk/ukpga/2016/22/section/172 Changes to legislation / revised to: “Housing and Planning Act 2016, Section 172 is up to date with all changes known to be in force on or before 19 August 2026.”

172 Right to enter and survey land E+W

(1) A person authorised in writing by an acquiring authority may enter and survey or value land in connection with a proposal to acquire an interest in or a right over land.

(2) The person—

(a) may only enter and survey or value land at a reasonable time, and

(b) may not use force unless a justice of the peace has issued a warrant under section 173(1) authorising the person to do so.

(3) The person must, if required when exercising or seeking to exercise the power conferred by subsection (1), produce—

(a) evidence of the authorisation, and

(b) a copy of any warrant issued under section 173(1).

(4) An authorisation under subsection (1) may relate to the land which is the subject of the proposal or to other land.

(5) If the land is unoccupied or the occupier is absent from the land when the person enters it, the person must leave it as secure against trespassers as when the person entered it.

(6) In this section and sections 173 to 178—

(a) “acquiring authority” means a person who could be authorised to acquire compulsorily the land to which the proposal mentioned in subsection (1) relates (regardless of whether the proposal is to acquire an interest in or a right over the land or to take temporary possession of it), and

(b) “owner” has the meaning given in section 7 of the Acquisition of Land Act 1981.

C.17 (cont.) Housing and Planning Act 2016, s.173 — Warrant authorising use of force to enter and survey land

URL: https://www.legislation.gov.uk/ukpga/2016/22/section/173 Changes to legislation / revised to: “Housing and Planning Act 2016, Section 173 is up to date with all changes known to be in force on or before 20 August 2026.” Page “Changes to legislation” notice (as reported by fetch tool): changes and effects from 2017 c. 20, 2021 c. 2, 2023 c. 36, 2025 c. 26 and 2026 asc 7 are listed as yet to be applied (these relate to the Act generally as displayed on the section page).

173 Warrant authorising use of force to enter and survey land E+W

(1) A justice of the peace may issue a warrant authorising a person to use force in the exercise of the power conferred by section 172(1) if satisfied—

(a) that another person has prevented or is likely to prevent the exercise of that power, and

(b) that it is reasonable to use force in the exercise of that power.

(2) The force that may be authorised by a warrant is limited to that which is reasonably necessary.

(3) A warrant authorising the person to use force must specify the number of occasions on which the authority can rely on the warrant when entering and surveying or valuing land.

(4) The number specified must be the number which the justice of the peace considers appropriate to achieve the purpose for which the entry and survey or valuation are required.

(5) Any evidence in proceedings for a warrant under this section must be given on oath.

C.17 (cont.) Housing and Planning Act 2016, s.174 — Notice of survey and copy of warrant

URL: https://www.legislation.gov.uk/ukpga/2016/22/section/174 Changes to legislation / revised to: “Housing and Planning Act 2016, Section 174 is up to date with all changes known to be in force on or before 29 July 2026. There are changes that may be brought into force at a future date.”

174 Notice of survey and copy of warrant

(1) The acquiring authority must give every owner or occupier of land at least 14 days’ notice before the first day on which the authority intends to enter the land in exercise of the power conferred by section 172.

(2) Notice given in accordance with subsection (1) must include—

(a) a statement of the recipient’s rights under section 176, and

(b) a copy of the warrant, if there is one.

(3) If the authority proposes to do any of the following, the notice must include details of what is proposed—

(a) searching, boring or excavating;

(b) leaving apparatus on the land;

(c) taking samples;

(d) an aerial survey;

(e) carrying out any other activities that may be required to facilitate compliance with the instruments mentioned in subsection (5).

(4) If the authority obtains a warrant after giving notice in accordance with subsection (1) it must give a copy of the warrant to all those to whom it gave that notice.

(5) The instruments referred to in subsection (3)(e) are—

(a) Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, as amended from time to time,

(b) Council Directive 92/43/EC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as amended from time to time, or

(c) any EU instrument from time to time replacing all or part of those Directives.

C.18 Pipelines Safety Regulations 1996 (SI 1996/825), reg 18 — Dangerous fluids (meaning of major accident hazard pipeline)

URL: https://www.legislation.gov.uk/uksi/1996/825/regulation/18 Changes to legislation / revised to: “The Pipelines Safety Regulations 1996, Regulation 18 is up to date with all changes known to be in force on or before 08 September 2026.” Changes-to-legislation notice (as reported by fetch tool): changes and effects yet to be applied — definition(s) applied by S.I. 2005/2042, reg. 12(c).

Dangerous fluids

18.—(1) The provisions contained in regulations 19 to 27 shall apply in relation to a pipeline in which a dangerous fluid is being, or is to be conveyed (in these Regulations referred to as a “major accident hazard pipeline”).

(2) For the purpose of these Regulations a fluid is a dangerous fluid if it falls within a description in Schedule 2.

C.18 (cont.) Pipelines Safety Regulations 1996 (SI 1996/825), Schedule 2 — Descriptions of dangerous fluids (including para 9A inserted by SI 2026/185)

URL: https://www.legislation.gov.uk/uksi/1996/825/schedule/2 (verbatim text obtained via https://www.legislation.gov.uk/uksi/1996/825/schedule/2/data.htm; point-in-time view also checked at https://www.legislation.gov.uk/uksi/1996/825/schedule/2/2026-09-10) Changes to legislation / revised to: “The Pipelines Safety Regulations 1996, SCHEDULE 2 is up to date with all changes known to be in force on or before 10 September 2026.” (Earlier fetch of base URL showed “on or before 08 September 2026”.) Amendment annotation (as reported by fetch tool): para 9A inserted (6.4.2026) by The Carbon Capture Utilisation and Storage and Offshore Hydrogen Production (Miscellaneous Amendments) Regulations 2026 (S.I. 2026/185).

SCHEDULE 2

DESCRIPTIONS OF DANGEROUS FLUIDS

1. A fluid which—

(a) is flammable in air;

(b) has a boiling point below 5°C, at 1 bar absolute; and

(c) is or is to be conveyed in the pipeline as a liquid.

2. A fluid which is flammable in air and is or is to be conveyed in the pipeline as a gas at above 8 bar absolute.

3. A liquid which has a vapour pressure greater than 1.5 bar absolute when in equilibrium with its vapour at either the actual temperature of the liquid or at 20°C.

4. A toxic or very toxic fluid which—

(a) is a gas at 20°C and 1 bar absolute; and

(b) is, or is to be, conveyed as a liquid or a gas.

5. A toxic fluid which—

(a) at 20°C has a saturated vapour pressure greater than 0.4bar; and

(b) is, or is to be, conveyed in the pipeline as a liquid.

6. Acrylonitrile.

7. A very toxic fluid which—

(a) at 20°C has a saturated vapour pressure greater than 0.001 bar; or

(b) is, or is to be, conveyed in the pipeline as a liquid at a pressure greater than 4.5bar absolute.

8. An oxidising fluid which is, or is to be, conveyed as a liquid.

9. A fluid which reacts violently with water.

9A. Carbon dioxide which—

(a) is in any fluid state;

(b) includes mixtures which consist predominantly of carbon dioxide; and

(c) is used exclusively for the purposes of carbon capture, utilisation and storage operations, and associated activities.

10.—(1) For the purposes of this Schedule—

(a) a liquid is oxidising if it meets the criteria set out in Annex I to the CLP Regulation ("the Annex") for classification in either of the following hazard classes—

(b) oxidising liquids of category 1, 2 or 3; or

(ii) organic peroxides Types C to F;

(b) a fluid is toxic if it meets the criteria set out in the Annex for classification in either of the following hazard classes—

(c) acute toxicity category 3, or

(ii) specific target organ toxicity (repeated exposure) category 1; and

(iii) a fluid is very toxic if it meets the criteria set out in the Annex for classification in either of the following hazard classes—

(iv) acute toxicity category 1 or 2, or

(v) specific target organ toxicity (single exposure) category 1.

(2) In this paragraph, "CLP Regulation" means Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No. 1907/2006, of which Articles 6(5), 11(3), 12, 14, 18(3)(b), 23, 25 to 29, 35(2) second and third sub-paragraphs and Annexes I to VII are to be read as amended from time to time.

C.18 (cont.) Pipelines Safety Regulations 1996 (SI 1996/825), reg 22 — Notification in other cases

(Note: reg 22 as displayed is headed “Notification in other cases”. The provision headed “Notification before construction” is reg 20, which is also reproduced below.)

URL: https://www.legislation.gov.uk/uksi/1996/825/regulation/22 Changes to legislation / revised to: “The Pipelines Safety Regulations 1996, Section 22 is up to date with all changes known to be in force on or before 10 September 2026.” (as reported by fetch tool)

Notification in other cases

22.—(1) Where there is a change of operator of a major accident hazard pipeline, or of his address, the operator shall notify such change to the Executive within 14 days thereafter.

(2) Subject to paragraph (3), in the case of a major accident hazard pipeline the construction of which has commenced, or has been completed, the operator shall ensure that no event of a kind described in Schedule 5 takes place until the expiration of 3 months, or such shorter time as the Executive may in that case approve, from the receipt by the Executive of the particulars specified in that Schedule in relation to such event.

(3) Where an event of a kind described in Schedule 5 takes place in an emergency, the operator shall notify to the Executive the particulars specified in that Schedule as soon as is reasonably practicable.

C.18 (cont.) Pipelines Safety Regulations 1996 (SI 1996/825), reg 20 — Notification before construction

URL: https://www.legislation.gov.uk/uksi/1996/825/regulation/20 Changes to legislation / revised to: “The Pipelines Safety Regulations 1996, Section 20 is up to date with all changes known to be in force on or before 10 September 2026.” (as reported by fetch tool)

Notification before construction E+W+S

20. The operator shall ensure that the construction of a major accident hazard pipeline is not commenced unless he has notified to the Executive the particulars specified in Schedule 4 at least 6 months, or such shorter time as the Executive may approve, before such commencement.

C.18 (cont.) Pipelines Safety Regulations 1996 (SI 1996/825), reg 25 — Emergency plans in case of major accidents

URL: https://www.legislation.gov.uk/uksi/1996/825/regulation/25 Changes to legislation / revised to: “up to date with all changes known to be in force on or before 10 September 2026.” (as reported by fetch tool)

Emergency plans in case of major accidents

25.—(1) A local authority which has been notified by the Executive that there is, or is to be a major accident hazard pipeline in its area shall before the pipeline is first used or within 9 months of such notification, whichever is later, and subject to paragraph (5), prepare an adequate plan detailing how an emergency relating to a possible major accident in its area will be dealt with.

(2) In preparing the plan pursuant to paragraph (1) a local authority shall consult the operator of the pipeline, the Executive and any other persons as appear to the authority to be appropriate.

(3) A local authority which has prepared a plan pursuant to paragraph (1) shall, as often as is appropriate and, in any case, at least every three years review the plan and make such revision as is appropriate.

(4) The operator of a major accident hazard pipeline shall ensure that every local authority through whose area the pipeline will pass is furnished promptly with such information as it may reasonably require in preparing the plan referred to in paragraph (1).

(5) It shall be deemed to be sufficient compliance with the requirement in paragraph (1) as to the time by which a plan is to be prepared, where such time is exceeded by reason of waiting for information referred to in paragraph (4) which has been promptly required.

(6) Where a pipeline passes or is to pass through the areas of two or more local authorities the duties under this regulation may be discharged by them where they prepare a single plan.

C.19 The Infrastructure Planning (Rights of Entry Notice) Regulations 2026, SI 2026/737 — reg 1 (citation, commencement and extent), reg 2 (interpretation) and reg 3 (rights of entry notice: prescribed information)

URL: https://www.legislation.gov.uk/uksi/2026/737/made (verbatim text obtained via https://www.legislation.gov.uk/uksi/2026/737/made/data.htm) Changes to legislation / revised to: “as made” version. Made 30th June 2026; Laid before Parliament 3rd July 2026; Coming into force 24th July 2026.

The Infrastructure Planning (Rights of Entry Notice) Regulations 2026

Made 30th June 2026 Laid before Parliament 3rd July 2026 Coming into force 24th July 2026

Citation, commencement and extent

1.—(1) These Regulations may be cited as the Infrastructure Planning (Rights of Entry Notice) Regulations 2026 and come into force on 24th July 2026.

(2) These Regulations extend to England and Wales and (subject to paragraph (3)) to Scotland.

(3) These Regulations extend to Scotland only so far as required for the purpose of the construction (other than by a gas transporter) of an oil or gas cross-country pipeline—

(a) one end of which is in England or Wales, and

(b) the other end of which is in Scotland.

Interpretation

2. In these Regulations—

“the Act” means the Planning Act 2008;

“development consent” means consent required for development to the extent that it is or forms part of a nationally significant infrastructure project in accordance with section 31 of the Act;

“the relevant land” means the land which it is proposed will be subject to entry in exercise of the right under section 53(1) of the Act—

(a) for the purposes of surveying and taking levels of it, or

(b) in order to facilitate compliance with the provisions mentioned in section 53(1A) of the Act;

“the rights of entry notice” means a notice given to the owner or occupier of the relevant land in accordance with section 53(4)(b) of the Act.

Rights of entry notice: Prescribed information

3.—(1) The rights of entry notice must include—

(a) the name and address (including any number or address used for the purposes of electronic transmission) of the authorised person;

(b) a description of the relevant land;

(c) a statement that the entry is required in connection with—

(d) an application for an order granting development consent, whether in relation to the relevant land or any other land, that has been accepted by the Secretary of State,

(ii) a proposed application for an order granting development consent, or

(iii) an order granting development consent that includes provision authorising the compulsory acquisition of the relevant land or of an interest in it or a right over it;

(iv) where an application for an order granting development consent has been accepted, the date the application was accepted and reference number of the application;

(e) where an order has been made granting development consent—

(f) the date the order was made,

(ii) any Statutory Instrument number, and

(iii) the provision in that order authorising the compulsory acquisition of the relevant land;

(f) where the entry is in connection with a proposed application, a statement with evidence showing that the proposed applicant intends to apply for an order granting development consent;

(g) a statement that the entry is in accordance with section 53(1) of the Act;

(h) details of the dates, times and duration of any entry;

(i) a statement that the authorised person has taken reasonable steps to contact the owner or occupier of the relevant land;

(j) a statement of the recipient's rights under section 53(7) of the Act;

(k) a statement that it is an offence to wilfully obstruct a person acting in the exercise of the rights under section 53(1) of the Act;

(l) a statement that a justice of the peace may issue a warrant authorising a person to use force to exercise the rights under section 53(1) of the Act, if satisfied—

(m) that another person has prevented or is likely to prevent the exercise of that power, and

(ii) that it is reasonable to use force in the exercise of that power.

(2) The rights of entry notice must be accompanied by—

(a) where applicable, a copy of the order granting development consent;

(b) a plan showing the relevant land, including points of entry;

(c) where applicable, a copy of any warrant obtained under section 53(4B) of the Act;

(d) evidence showing that the authorised person has taken reasonable steps to contact the owner or occupier of the relevant land.

C.20 The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015, SI 2015/462, reg 4 — Relevant representations

URL: https://www.legislation.gov.uk/uksi/2015/462/regulation/4 (verbatim text obtained via https://www.legislation.gov.uk/uksi/2015/462/regulation/4/data.htm) Changes to legislation / revised to: fetch tool did not return an explicit “up to date … on or before [date]” line (fetched 10 September 2026). Textual amendment annotations shown: F1 words in reg. 4(2)(b) omitted (30.4.2024) by S.I. 2024/332, regs. 1(1), 3(a) (with reg. 4(2)); F2 words in reg. 4(2)(b) inserted (30.4.2024) by S.I. 2024/332, regs. 1(1), 3(b) (with reg. 4(2)). Commencement: I1 reg. 4 in force at 6.4.2015, see reg. 1.

Relevant representations

4.—(1) For the purposes of section 102(4)(b) (interpretation of Chapter 4: “interested party” and other expressions) of the Act a relevant representation must be in the form of a registration form.

(2) The registration form must include—

(a) the name, address and any telephone number of the person registering; and

(b) the principal submissions, and where practicable, the full particulars of the case which the person proposes to make in respect of the application.

C.21 Caveats on the extracts

All 20 requested items were returned by the fetch tool as verbatim text (after retries where the first attempt paraphrased). The following caveats apply:

- **Omitted subsections shown as dots**: For Planning Act 2008 s.46(2), s.51(2), s.53(2) and s.161(5), the fetch tool reported the subsection as “[Omitted]” or “…” rather than reproducing the exact run of dots displayed on the page; these are marked in the text above. Verify against the page if the exact rendering matters.
- **Status date not returned**: For Planning Act 2008 s.21 and SI 2015/462 reg 4, the fetch tool did not return the page’s “up to date with all changes known to be in force on or before [date]” line; the text itself was returned verbatim.
- **Pipelines Safety Regulations 1996 Schedule 2**: the first two fetches paraphrased paragraphs 1–10; the third fetch (of the /data.htm page) returned verbatim text, which is what appears above.
- **Planning Act 2008 s.50**: the base URL fetch returned the pre-24 July 2026 text; the point-in-time URL returned the substituted text (both recorded above).
- **Planning Act 2008 s.55**: the base URL fetch returned a version stated to be up to date to 15 July 2026 (pre-amendment); the point-in-time URL (10/09/2026) returned the amended text, which is what appears above.
- **Pipelines Safety Regulations 1996 reg 22**: as displayed, reg 22 is headed “Notification in other cases”; reg 20 (“Notification before construction”) was fetched in addition and is included above.
- No provision was marked “[TOOL PARAPHRASE — verify]”.

Appendix D — CO_2 transport modes compared

A reference table for a 3 million tonne a year, c. 200 km onshore chain from inland works to a coastal delivery point. Figures are from the sources cited in Sections 5, 11 and 12; rows marked (derived) use the assumptions stated there.

D.1 Physical and operational characteristics

Characteristic	Dense-phase pipeline	Rail (liquid CO_2)	Road (liquid CO_2)	Ship (liquid CO_2)
Fluid state	Dense phase, c. 80–150 bar, ground temperature	Liquid, c. 12–20 bar, −25 to −30 °C	Liquid, c. 15–20 bar, −25 to −30 °C	Liquid, c. 7 bar/−50 °C or 15–20 bar/−20 to −30 °C
Density	c. 920–955 kg/m³	c. 1,076 kg/m³ at −30 °C	as rail	c. 1,050–1,150 kg/m³
Unit capacity	Continuous; c. 540 t inventory per km of 36-inch pipe	c. 60 t per European wagon (US cars 76–80 t)	20–25 t per tanker	1,200–1,800 t (existing trade); c. 8,000 t (7,500 m³); designs to 50,000 t
Units per day for 3 Mtpa (derived)	—	c. 137 wagons; 6–7 loaded trains; 12–14 movements	330–410 loaded; 660–820 movements	c. 1 loading per day at 7,500 m³
Energy at source	Compression to pipeline pressure	Liquefaction c. 100–125 kWh/t from low-pressure feed (15–25 kWh/t if already at pipeline pressure)	as rail	as rail
Fixed infrastructure	Pipeline, block valves, compression	Liquefaction, buffer storage and loading at each site; receiving terminal, storage and onward link at coast; wagon fleet	Liquefaction and loading at each site; receiving terminal; tanker fleet	Liquefaction, storage, jetty and loading arms at port; receiving jetty or offshore unloading; ships
Lead times (DESNZ respondents)	DCO and construction	Rail cars c. 24 months	—	Ships c. 36 months; jetties 36–60 months

D.2 Cost, emissions and safety

Measure	Pipeline	Rail	Road	Ship
Cost basis of the published figures	Levelised; >90% capital (ZEP); highly sensitive to utilisation and cost of capital; BEIS 2020 figures undiscounted	Levelised; mostly variable operating cost; capital modular and largely leased; insensitive to	as rail	Levelised; <50% capital (ZEP); “nearly the opposite sensitivity” to pipeline

Measure	Pipeline	Rail	Road	Ship
	(pipeline at 0%, 20 years) with no stated utilisation adjustment	utilisation		
Cost per tonne, authoritative studies	ZEP: €5.4/t at 2.5 Mtpa, 180 km onshore (2011)	Not modelled by ZEP/BEIS/IEAGHG; US models: rail cheaper than pipeline only below c. 0.3 Mt/yr at 200 km (Stolaroff 2021) or under 2 Mt/yr on US rates (Ho 2024); GCCSI: “around twice” pipeline/ship	US model (Stolaroff 2021) c. $0.11/t-km (c. $22/t at 200 km); GCCSI: “not economic for large-scale CCS projects”	ZEP: €8.2/t + €5.3 liquefaction at 180 km; BEIS 2018: cheaper than pipeline only above 500 km at 5 Mtpa
Transport emissions, 200 km (derived from ORR/DESNZ factors)	Compression electricity only	c. 5 kg CO_2e/t (0.5%) plus liquefaction electricity	c. 14 kg/t loaded leg, 28 kg/t with empty return (1.5–3%) plus liquefaction	Marine fuel; not quantified here
Inventory at risk per unit	5,000–11,000 t per 10–20 km section	c. 1,200–1,500 t per train	20–25 t per tanker	8,000+ t per ship
Where the hazard sits	Buried, rural easement; HSE-regulated major accident hazard pipeline from April 2026	Railway corridor through stations, cuttings, level crossings and towns; terminals	Public roads; terminals	Port and sea; terminals
Community effects	Construction disruption; permanent easement; HSE consultation zones	12–14 additional daily train movements on the Hope Valley, Peak Forest and Mid-Cheshire lines; terminal sites	660–820 additional daily HGV movements on rural and urban roads	Port traffic; terminal site

D.3 Precedent and policy

Measure	Pipeline	Rail	Road	Ship
Operating CCS precedent at ≥1 Mtpa	c. 5,500 miles in the US; Porthos, HyNet under construction; Viking consented	None. GeZero (Germany, 0.7 Mtpa, 2029) uses rail “until the necessary pipeline infrastructure is available”; US food-grade/EOR rail c. 0.9 Mtpa in aggregate	None for storage; merchant deliveries only	Northern Lights (Norway) operating; standard mode for coastal emitters far from a store
Authoritative	IEA: “the	IPCC: rail and	as rail	IEA: cheapest for

Measure	Pipeline	Rail	Road	Ship
bodies' view	cheapest way of transporting CO_2 in large quantities onshore"	road "unlikely … attractive options for large-scale" CCS; IEA: "short distances and small volumes … at higher cost"		"long-distance transport of small volumes (up to around 2 Mt/year)"
UK policy framing	Cluster pipelines (Track-1/2); Peak Cluster outside both	"Non-pipeline transport" for "dispersed sites … where a pipeline is technically and/or economically unviable"	as rail	as rail; pathfinder for Teesside opened April 2026
Relevance to a partial capture-for-re-use option (Section 10)	Not needed	The established merchant mode; three of four sites rail-served; fleet acquirable in c. 2 years	The established merchant mode for deliveries of 20–25 t	Relevant only for storing a further tranche from a port
Relevance to this project	The applicant's chosen mode	Three of four sites rail-served; no coastal rail facility on the Wirral; store operator says rail delivery is possible without saying where; no UK CO_2 wagon fleet	Applicant's "400 one-way movements" (loaded trips)	Would require a port terminal and ship-to-store unloading at MNZ, neither announced

Appendix E — CO_2 release incident register

Compiled from official investigation reports, regulator data and peer-reviewed sources. Press sources are used only where no official report exists and are marked as such. Controlled test releases are listed separately at the end because they are not incidents but provide measured data on release behaviour at scale.

E.1 Pipeline incidents

E.1.1 Satartia, Yazoo County, Mississippi, USA — 22 February 2020

Field	Record
Operator and facility	Denbury Gulf Coast Pipelines LLC; 24-inch, 77-mile Delhi pipeline, Jackson Dome to Delhi field
Product and conditions	Supercritical CO_2 with trace H_2S; MAOP 2,160 psig (c. 149 bar); c. 1,402 psig (c. 97 bar) at rupture
Cause (as found)	Full circumferential girth-weld failure from axial strain imposed by a landslide after exceptional rainfall; geohazard not addressed in the operator's procedures or integrity programme
Quantity	31,405 bbl (c. 4,500 t, derived), over about four hours; true figure probably higher
Consequences	45 people sought hospital treatment; c. 200 evacuated; vehicle engines failed; two highways and two local roads closed; no deaths; the operator's dispersion model had left the village outside the predicted hazard area; responders not notified by the operator
Authority and documents	PHMSA Failure Investigation Report, 26 May 2022; Notice of Probable Violation CPF 4-2022-017 (proposed penalty $3,866,734); Consent Agreement and Order 24 March 2023 ($2,868,100 paid); Advisory Bulletin ADB-2022-01; further NOPV CPF 4-2025-024 (open)

E.1.2 Sulphur, Calcasieu Parish, Louisiana, USA — 3 April 2024

Field	Record
Operator and facility	Denbury (ExxonMobil); Lake Charles pump station on the 24-inch "Green" line
Product and conditions	CO_2
Cause (as found)	Not published
Quantity	c. 2,548 bbl (press, from the operator's accident report)
Consequences	Shelter-in-place order over 0.25 mile for about three hours; no injuries reported; emergency alert reportedly reached only a handful of households
Authority and documents	No PHMSA investigation report or enforcement document published; operator's Form 7000-1 in PHMSA's hazardous-liquid accident database; *press: The Guardian 19 April 2024; Verite News 30 April 2024*

E.1.3 Kinder, Louisiana (20 December 2010) and Beaumont, Texas (14 February 2011), USA

Field	Record
Operator and facility	Denbury Gulf Coast Pipelines; 24-inch Green line (MOP 2,220 psi)
Product and conditions	CO_2
Cause (as found)	Pinhole leaks from long-seam mill defects in the pipe
Quantity	Of the order of gallons; c. 2 gallons per hour in one case
Consequences	No injuries; because of their pinhole nature "neither was detectable by the system's SCADA equipment"
Authority and documents	PHMSA Failure Investigation Report, 1 October 2013

E.1.4 United States, all supercritical CO_2 pipelines — aggregate 2010–2021

Field	Record
Scope	c. 5,500 miles of supercritical CO_2 pipeline (PHMSA annual-report mileage 2020–2025: 5,150–5,501 miles)
Incidents	66 reportable accidents in twelve years; average c. 920 bbl (c. 110 t) each; 49,181 t in total as stated by PHMSA (the two figures do not reconcile; see Section 6)
Consequences	PHMSA records one reportable injury and no fatalities on CO_2 pipelines 1991–2023; Satartia's 45 hospital attendances appear in the investigation report, not as reportable injuries
Authority and documents	PHMSA Notice of Proposed Rulemaking RIN 2137-AF60, 10 January 2025; PHMSA annual-report mileage data

E.2 Fixed installations and natural releases (not pipelines)

E.2.1 Mönchengladbach, Germany — 16 August 2008

Field	Record
Source	Fire-suppression installation at a factory; door seals failed; very still air
Quantity	c. 15 t
Consequences	107 people intoxicated, 19 hospitalised; no deaths; c. 2 km cordon including motorway exits (press)
Authority and documents	HSE, *Assessment of the major hazard potential of CO_2*, 2011; *press: Tagesspiegel 16 August 2008*

E.2.2 Fixed CO_2 fire-suppression systems worldwide — aggregate 1975–2000

Field	Record
Incidents	51 recorded incidents
Consequences	72 deaths; 145 injuries

Field	Record
Authority and documents	HSE, *Assessment of the major hazard potential of CO_2*, 2011

E.2.3 Lake Nyos, Cameroon — 21 August 1986 (natural analogue)

Field	Record
Source	Natural limnic eruption from a volcanic crater lake
Quantity	c. 1.6 million t
Consequences	Around 1,700 people and 3,500 livestock killed by CO_2 intoxication in the valleys below
Authority and documents	Kling et al., *Science* 236 (1987); Baxter et al., *BMJ* 298 (1989); HSE 2011

E.3 European CO_2 pipeline experience (operating record)

System	Description	Record
OCAP, Netherlands	Gaseous CO_2 at c. 21 bar; c. 400,000 t/yr from industrial sources to c. 500 greenhouses	No release found in official sources (TNO 2015)
Lacq-Rousse, France	Gaseous CO_2 at 27 barg; 29 km repurposed gas line; 2010–2013 pilot; c. 43,000 t injected by 2012	No leakage detected (Monne & Prinet, *Energy Procedia* 2013)
Snøhvit, Norway	153 km subsea pipeline; injection from 2008; injection zone changed 2011 after pressure rose faster than expected	No pipeline release in official sources (Norwegian Offshore Directorate CO_2 Atlas)
Sleipner, Norway	Offshore separation and injection, c. 1 Mt/yr since 1996	No pipeline release in official sources
Viking CCS, Lincolnshire, UK	First UK CO_2 pipeline DCO, SI 2025/509; not yet built	—

E.4 Controlled full-scale test releases (measured data)

Programme and test	Pipe and conditions	Release	Observed
COSHER JIP, Spadeadam	219 mm pipe loop; 15.08 MPa; full-bore rupture	c. 136 t in 204 s	Visible plume to c. 60 m height and 400 m from rupture; crater c. 5 m × 1.25 m deep (Ahmad et al., *IJGGC* 37, 2015)
COOLTRANS, Spadeadam	Buried 914 mm pipe at c. 150 barg; punctures and quarter-scale ruptures	Various	Solid CO_2 formed in all releases; temperatures below −100 °C in the core; c. 35% solid fraction in a top puncture (Wareing et al., *Energy Procedia* 63, 2014)
COOLTRANS full-scale fracture tests 1–3, 2012–2015	914 mm × 25.4 mm L450 at c. 148–151 barg (tests 1–2); 610	Fracture propagation	Test 3: fracture ran through 102 J and 173 J pipe at 100–130 m/s,

Programme and test	Pipe and conditions	Release	Observed
	mm × 19.1 mm L450 at 150 barg (test 3)		arrested in 330 J pipe (Gruben et al., IPC 2018; Cooper & Barnett, Hazards 26, 2016)
CO2PIPETRANS Phase 2, Spadeadam	200 m × 50 mm pipe at c. 100 barg; 10–50 mm orifices	c. 410 kg	Pressure fell to saturation “well within one second”; solid CO_2 deposited then sublimed (Holt et al., Hazards 25, 2015)
CO2SafeArrest tests 1–2, Spadeadam, 2017–2018	610 mm L450 pipe with CO_2-rich mixtures	Fracture propagation and dispersion	Crack arrest in large-scale tests “has only been observed in base material pipes with CVN energy of approximately 300 J or higher”; crack-tip pressures 55–85 barg (Michal et al., IPC 2018; Cosham et al., 2022)

Sources for this Appendix are given in full in the reference lists of Sections 5 and 6.

Appendix F — Regulator and stakeholder directory

Organisations with a statutory or practical role in the Peak Cluster CCS Pipeline, the stage at which each acts, and where its output can be found. "Prescribed" means listed in Schedule 1 to the Applications: Prescribed Forms and Procedure Regulations 2009 (as amended) as a person to be notified of the accepted application, or in the Interested Parties Regulations 2015 as a statutory party. Web addresses are to the organisation's main site or the relevant page; the Inspectorate's project page carries the register of every document and piece of advice on the project.

Table F.1 — Decision-makers and the planning system

Organisation	Role on this project	Stage	Where its output appears / how to engage
Secretary of State for Energy Security and Net Zero (DESNZ)	Decision-maker under s.104 PA 2008; author of EN-1; would make any s.35 direction; decides non-material and material changes after consent	Decision (c. early 2029); post-consent changes	Decision letter and statement of reasons on the Inspectorate project page. Correspondence via the Department; representations on the application go to the Inspectorate, not the Department.
Planning Inspectorate (Examining Authority)	Gives s.51 advice (published); scoping opinion (given, 19 Feb 2026); accepts or refuses the application (28 days); appoints the Examining Authority; runs the examination (6 months) and reports (3 months)	Pre-application to recommendation	Project page: documents, s.51 advice register, register of interested parties, examination library and timetable. Written questions to the Inspectorate about process are answered under s.51 and published.
Ministry of Housing, Communities and Local Government	Author of the July 2026 guidance suite on pre-application, application contents, acceptance and examination (s.50 duty); sponsor of the Planning and Infrastructure Act 2025	Framework	Guidance on gov.uk; not a body to which representations on this project are made.
Host local authorities: Wirral Council; Cheshire West and Chester Council; Cheshire East Council; Staffordshire County Council; Staffordshire Moorlands District Council; Derbyshire County Council; Derbyshire Dales District Council; High Peak Borough Council; Peak District National Park	Local planning, highway, minerals and emergency-planning authorities; entitled to be invited to submit a local impact report; automatically interested parties; discharge and enforce requirements after consent; may recover costs from the applicant from 8 June 2026	Throughout; principal role at examination and after consent	Council and committee papers on each authority's democracy pages (Section 19, Appendix G); local impact reports on the examination library. Engage through the ward or division member and the authority's NSIP or planning policy officer

Organisation	Role on this project	Stage	Where its output appears / how to engage
Authority			
Parish and town councils on the route	Prescribed persons (notified of the accepted application); statutory parties (invited to the preliminary meeting); may register as interested parties and request an open-floor hearing; may submit written representations; no cost recovery	Registration onward	Their own minutes and websites; representations on the examination library. Section 19
Local Resilience Forums (Cheshire; Derbyshire; Staffordshire; Merseyside) and fire and rescue, police and ambulance services	Statutory parties; emergency-planning bodies for a major accident hazard pipeline after notification	Examination (as statutory parties); post-consent (emergency plan)	Through the county or unitary council's emergency-planning function; no public register of their engagement with the applicant

Web addresses: Secretary of State for Energy Security and Net Zero — https://www.gov.uk/government/organisations/department-for-energy-security-and-net-zero; Planning Inspectorate — https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN0710001; Ministry of Housing, Communities and Local Government — https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-1-pre-application-steps. **Table F.2 — Safety, environmental and heritage regulators**

Organisation	Role on this project	Stage	Where its output appears / how to engage
Health and Safety Executive	Prescribed consultee; regulator under the Pipelines Safety Regulations 1996 (as amended 2026); sets land-use planning consultation zones after consent; joint COMAH competent authority	Told the Inspectorate in February 2026 it does not comment on scoping; relevant representation at examination "if there are significant outstanding concerns"; regulation from notification of construction	Its scoping letter is in Appendix 2 to the Scoping Opinion; its examination representation on the library; land-use planning advice via its planning advice web app. ;
Environment Agency	Prescribed consultee; permits for works in or near main rivers, abstraction and discharge (hydrotest water), and environmental permits for the capture plants; joint COMAH competent authority; consultee on construction environmental	Scoping (responded); examination; permits after consent; discharge of requirements	Scoping response in Appendix 2; examination representations; permit applications on its public register.

Organisation	Role on this project	Stage	Where its output appears / how to engage
	management plans		
Natural England	Prescribed consultee; statutory nature-conservation adviser for the Habitats Regulations assessment; SSSI consents; consultee on loss of 20 ha or more of best and most versatile land	Scoping (responded at length); examination; SSSI assent and licences after consent	Scoping response in Appendix 2 (alternatives, designated sites, soils/BMV); examination representations.
Natural Resources Wales	Consulted on cumulative and transboundary effects for projects in Flintshire and Wrexham; Welsh counterpart of the Environment Agency and Natural England	Scoping (responded); examination	Scoping response in Appendix 2.
Historic England	Prescribed consultee; scheduled monument and listed building matters subsumed in the Order; consultee on the archaeological requirement	Scoping; examination; discharge	Scoping response in Appendix 2; examination representations.
UK Health Security Agency	Prescribed consultee on the human-health assessment	Scoping; examination	Responses on the library.
The Coal Authority	Prescribed consultee where the route crosses coal mining reporting areas (it does)	Scoping; examination	Responses on the library.
Marine Management Organisation; The Crown Estate	Consultees for the works below mean low water and on Crown foreshore and seabed	Scoping; examination	Responses on the library.
Forestry Commission	Consultee on woodland and ancient woodland	Scoping; examination	Responses on the library.

Web addresses: Health and Safety Executive — https://www.hse.gov.uk/pipelines/; Health and Safety Executive — https://www.hse.gov.uk/landuseplanning/; Environment Agency — https://www.gov.uk/government/organisations/environment-agency; Natural England — https://www.gov.uk/government/organisations/natural-england; Natural Resources Wales — https://naturalresources.wales; Historic England — https://historicengland.org.uk; UK Health Security Agency — https://www.gov.uk/government/organisations/uk-health-security-agency; The Coal Authority — https://www.gov.uk/government/organisations/the-coal-authority; Marine Management Organisation — https://www.gov.uk/government/organisations/marine-management-organisation; Forestry Commission — https://www.gov.uk/government/organisations/forestry-commission. **Table F.3 — Infrastructure owners and statutory undertakers (protective provisions)**

Organisation	Role on this project	Stage	Where its output appears / how to engage
National Highways	Highway authority for the M6, M56 and trunk roads crossed; consultee on the construction traffic management plan	Scoping (responded); examination; discharge	Scoping response on the register (EN0710001-000056).
Network Rail	Owner of the railway lines crossed and of the freight routes discussed in Section 12; protective provisions	Scoping (responded on asset protection); examination	Scoping response in Appendix 2.

Organisation	Role on this project	Stage	Where its output appears / how to engage
National Gas Transmission; Cadent Gas	Owners of the existing gas pipelines whose consultation zones the corridor crosses; protective provisions	Examination; construction	No public output before the application; protective provisions in the draft Order
United Utilities; Severn Trent Water; Dŵr Cymru Welsh Water	Water and sewerage undertakers; protective provisions; United Utilities' late scoping response is on the register	Scoping; examination	Register (EN0710001-000190).
Electricity North West; SP Energy Networks; National Grid Electricity Distribution / Transmission	Electricity network owners crossed; protective provisions; possible new connections for the above-ground installations	Examination; construction	Protective provisions in the draft Order
Canal & River Trust	Owner of the Macclesfield, Trent & Mersey and Shropshire Union canals crossed; prescribed consultee; protective provisions	Scoping (responded); examination	Scoping response in Appendix 2.

Web addresses: National Highways — https://nationalhighways.co.uk; Network Rail — https://www.networkrail.co.uk; United Utilities — https://www.unitedutilities.com; Canal & River Trust — https://canalrivertrust.org.uk. **Table F.4 — Offshore, economic and policy bodies (Sections 13 and 14)**

Organisation	Role on this project	Stage	Where its output appears / how to engage
North Sea Transition Authority	Grants the carbon-storage licence and permit for the offshore store (Morecambe Net Zero, licence CS010)	Separate from the DCO	Licence register.
Offshore Petroleum Regulator for Environment and Decommissioning (OPRED, within DESNZ)	Offshore environmental consents for the storage project	Separate from the DCO	
Ofgem	Economic regulator; would license the CO_2 transport and storage network under the Energy Act 2023 if the project enters the Government's business model	Separate from the DCO	
Department for Transport; Network Rail (strategic)	Bodies relevant to the rail alternative and to rail freight capacity (Section 12)	Not engaged by the DCO unless the applicant or an objector raises rail	Section 12

Web addresses: North Sea Transition Authority — https://www.nstauthority.co.uk; Offshore Petroleum Regulator for Environment and Decommissioning — https://www.gov.uk/guidance/oil-and-

gas-offshore-environmental-legislation; Ofgem — https://www.ofgem.gov.uk. **Table F.5 — The applicant and its promoters**

Organisation	Role on this project	Where its output appears / how to engage
Peak Cluster Limited	Applicant and, if consented, undertaker; responsible for the Environmental Statement, the draft Order, land negotiations and any voluntary engagement	Project website and consultation material (company statements); Inspectorate project page for anything submitted.
The cement and lime producers whose works would be connected (Section 3); Progressive Energy; the National Wealth Fund	Shareholders, developer and funder of the project as described in Part A and Part D	Company and fund statements; not parties to the DCO in their own right unless they register

Web addresses: Peak Cluster Limited — https://peakcluster.co.uk. *Members of Parliament for the constituencies crossed are not part of the statutory process but may make representations, secure debates (Section 19) and raise questions of ministers; the Inspectorate treats an MP's representation as it treats any other.*

Appendix G — Positions of local authorities and other bodies to date: operative text

This appendix reproduces, as far as it has been possible to retrieve them, the operative words of the resolutions and statements summarised in Table 19.1, so that a reader can quote them accurately. Text in quotation marks is taken from the source cited. Where only a press or party-website report has been obtained, that is stated and the text should be replaced with the minute when it is obtained. Nothing here is a statement of the merits of any position.

G.1 Wirral Council — Extraordinary Council, 9 March 2026

Three notices of motion on the Peak Cluster pipeline were considered. Each was recorded as "Resolved (56:0) 1 abstention". The motion moved by the Labour group, as amended, resolved that the Council:

> "1. Request that the Government cancel the Peak Cluster project, which cuts through 200 km of countryside, communities, and nature reserves. 2. Formally oppose routing the Peak Cluster CO_2 pipeline through the Wirral and submit objections to the relevant planning and regulatory authorities. 3. Call for a comprehensive, independently verified environmental and safety impact assessment, including full public consultation within the Wirral. 4. Demand robust emergency-response planning, a legally binding regulatory framework, and long-term monitoring provisions should the project proceed. 5. Advocate for alternative climate strategies … 6. Work collaboratively with neighbouring authorities, community groups, and environmental organisations … 7. Request all 66 councillors sign the following letter … to the Secretary of State."

The Green group's motion urged the Government to "prioritise national investment in the rapid scaling of existing and new lower and zero-carbon cement technologies". The Liberal Democrat group's motion sought justification for the Wirral routing, consideration of alternative routes, a community benefit fund and an extension of consultation. (Source: Wirral Council minutes, agenda item record ID 79825 — Section 19, reference 20. The ellipses are in the retrieved record; the full text of points 5–7 should be checked against the printed minutes.)

G.2 Wirral Council — Policy and Resources Committee, 9 September 2026

Report "Peak Cluster — Licence Agreement to Access Council Land". Recommendation: "1. Consider whether or not to agree the granting of a licence to Peak Cluster to progress a number of surveys on land set out in appendix 1, and if agreeable; 2. Authorise the interim Director of Capital Programmes and Assets to enter into the detailed arrangements to enable such access." The report states: "Decisions relating to granting of licences is normally a delegated officer decision. However, the matter has been referred to this Committee for a decision"; "Under section 172 of the Housing and Planning Act 2016 … a person authorised in writing by an acquiring authority (in this case Peak Cluster) may enter and survey"; "Peak Cluster thus have a right to enter relevant Council land pursuant to section 172"; "As from 24 July 2026, following exercising of the power of access via a formal notice process, a person or persons authorised by Peak Cluster may enter relevant Council land pursuant to powers under section 53 of the Planning Act 2008"; "Should the Council choose not to allow access, the promoter of the scheme can seek exercise its powers to secure access"; and that on an application to the magistrates' court "the magistrates court could make such award for costs in Peak Cluster's favour to be borne by the Council as it would consider just and reasonable". Proposed terms: £900 per licence, a contribution to professional fees (£500, with a stated cap of £1,000 — the report should be checked for what the cap attaches to), a term of about eighteen months, three licences anticipated. The committee is reported to have voted unanimously not to grant the licences; a Green group member is quoted as saying "Having carefully considered the advice, we supported the decision not to grant Peak Cluster access to council-owned land for these surveys". The report had warned that on a refusal "Peak Cluster will be in a position to authorise staff and contractors to access the land and if the council were to in any way impede access, then Peak Cluster would be entitled to seek a warrant from a magistrates court" (as quoted in the press). The

minute had not been published at the date of this briefing. (Source: Section 19, references 21 and 37.)

G.3 Derbyshire County Council — Council, 25 March 2026, minute 35/26

Cross-party motion, moved by Councillor Ruth George. The motion recorded that a project of this scale "requires the highest standards of scrutiny, transparency and democratic accountability", and that the Council "supports meaningful environmental action, but cannot support the Peak Cluster carbon dioxide pipeline as in this case Council prioritises the safety of residents, the protection of farmland, and the preservation of Derbyshire's valued wildlife, ecology and landscapes". It resolved to: (1) "Formally record its opposition, in principle, to the proposals for the carbon dioxide pipeline at each stage"; (2) "Request that the Leader write to the appropriate government ministers to set out our concerns – DCHLG [sic] responsible for NSIP projects and the Department of Energy and Net Zero …"; (3) "Work with other Councils and stakeholders collaboratively to convey local concerns"; and (4) "Support our quarries and cement industry to secure significant government funding to reduce emissions at source and scale up the successful pilots of low carbon cement and construction methods." The minute records the motion as "WON and CARRIED"; no vote numbers are recorded. (Source: Section 19, reference 22.)

A press report of 7 July 2026 states that the Cabinet Member for Highways Assets and Transport had decided to enter into agreements under which the applicant (and, separately, the promoter of an electricity line) would fund the council's specialist consultants to "support the council's case for objecting to the Development Consent Order (DCO) … and its continued participation in the DCO process for the project". The decision record has not been located. (Source: Section 19, reference 23 — local press.)

G.4 Cheshire East Council — Corporate Policy Committee, 30 April 2026, and Council, 15 July 2026

Committee, 30 April 2026, agenda item 6, "Peak Cluster — Update". The officer report and its Appendix A (the Council's Phase 1 consultation response) could not be retrieved for this briefing. The officer wording quoted by the local press (29 April 2026) is: the pipeline corridor "should follow the proposed option to the north of Middlewich which would appear to present significantly less constraints and is the most viable option to take forward"; the southern options face "significant strategic constraints" including housing allocations and the Middlewich Eastern Bypass. The agenda record states that members raised the quality of the applicant's consultation, the cost to the council and effects at Bollington; that an amendment calling for a full Council debate was defeated; and that the Committee noted the update and agreed that the Council would provide formal feedback on Phase 1 to Government and the project team. The verbatim resolution has not been obtained. (Source: Section 19, reference 24 — agenda page; officer wording from local press.)

Council, 15 July 2026, notice of motion. Moved by Councillors Smetham and Whitaker: "Cheshire East Council should seek to oppose the Peak Cluster proposals"; "Unlike our town and parish councils, this council has significant resources that can be deployed to influence the outcome of this project." Reported as referred to Cabinet. The outcome has not been located. (Source: Section 19, reference 25 — local press.)

G.5 Cheshire West and Chester Council — Council, 21 April 2026, and scoping response, February 2026

Council, 21 April 2026. A motion opposing the project, moved by Councillor Sion Roberts, was reported by the movers' party website as having "passed near unanimously", and by the local press as a motion "to oppose the Peak Cluster project, as well as write a letter to ministers". The text of the motion, the vote and the minute have not been obtained. (Source: Section 19, reference 26 — party website and local press.)

Scoping response, 9 February 2026 (Appendix 2 to the Scoping Opinion). "given the proximity to the Hoole Bank Tar Lagoon and extent of any construction phases, as well as operation phases, any

pollution accident should be scoped in as the impacts relating to Hoole Bank Tar Lagoon would be significant." The Inspectorate's Opinion records, at ID 3.14.74, that "noting comments from Cheshire West and Cheshire [sic] Council in relation to the potential for interaction with Hoole Bank Tar Lagoon, the Inspectorate is not able to scope this matter out for all phases at this stage." (Source: Scoping Opinion, Appendix 2 and ID 3.14.74 — Section 23, reference 4; Section 19, reference 27.)

G.6 Staffordshire County Council — Council, 16 July 2026, notice of motion 6(b)

Moved by Councillor Beardmore, seconded by Councillor Eggington. The motion recorded that "Staffordshire County Council has only a statutory consultee technical planning role, and the final decision lies with the Government", and resolved to: "Ensure Staffordshire County Council continues to engage fully with the consultation process …"; that "the Leader of the Council writes to the Government and Promoter of the scheme to request that the voices of local residents and councillors are actively sought during all future consultations"; and to "ensure members representing directly affected areas along the pipeline route have the opportunity to make representations …". The minute records: "Following a vote, it was: RESOLVED – That the motion be carried." An earlier officer report to the Economy, Infrastructure and Communities Overview and Scrutiny Committee (25 June 2026) stated: "Officers are required to provide technical responses to statutory consultation to ensure proposals are mitigating their impact, but it is the Planning Inspectorate that makes a recommendation of the Secretary of State on how to determine the application." (Source: Section 19, reference 28; scrutiny report at https://staffordshire.moderngov.co.uk/documents/s207691/Peak%20Cluster%20Pipeline.pdf.)

G.7 Peak District National Park Authority — Corporate Risk Register 2026–27 and Authority papers

Risk 15, "Nationally Significant Infrastructure Project (NSIP) – Peak Cluster CO2 Pipeline": "If the proposal for two new CO2 pipelines goes ahead, we are at risk of: – Harm to Special Quality features (in particular, landscape character, archeology, wildlife/nature and farming economy). – Impact on delivery of landscape and nature recovery targets … – Increase in future mineral extraction plans … However, the potential benefit of the pipeline in climate change mitigation is a key consideration." Rated 12 (likelihood 4 × impact 3), target 8. Mitigation: "Continue positively engaging at the pre-application advice stage with a view to influence the development", and to prepare a local impact report once the application is received. The Chief Executive's report to the Authority of 27 February 2026 recorded the risk downgraded from red to amber because "initially, the project proposed two pipelines which would be established within the Peak District, however the changes have resulted in this being reduced to one pipeline", the remaining pipeline posing "a significant risk" requiring "significant mitigating actions". No resolution on the merits has been found. (Source: Section 19, reference 29.)

G.8 High Peak Borough Council

Web page "Peak Cluster — Carbon Capture Pipeline Project" (last modified 11 May 2026) explaining the Council's role as a host authority in the DCO process. No position on the merits. (Source: Section 19, reference 13.)

G.9 Parish and town councils

Cranage Parish Council, 26 February 2026. "Cranage Parish Council formally objects to the proposed high-pressure CO_2 pipeline associated with the Peak Cluster Carbon Capture and Storage Project passing through the Parish of Cranage." Should the project be approved, the Council asks for additional emergency shut-down valves and for the route to be moved south of Holmes Chapel. (Source: Section 19, reference 30.)

Gawsworth Parish Council, 3 March 2026. Resolution recording a "STRONG OBJECTION to the Peak Cluster proposals as currently drafted"; that the project "fails to demonstrate that the mitigation hierarchy has been applied"; and that an above-ground installation is proposed in the Green Belt

when “more logical, less harmful southern alternatives exist”. (Source: Section 19, reference 31 — community website reproducing the resolution; the parish council’s own minute should be obtained.)

Whaley Bridge Town Council, 18 February 2026 (late scoping response, EN0710001-000057). “The Town Council are concerned about the pipeline coming through the urban area and request that an alternative, more direct, route is looked for in the upper Goyt Valley.” (Source: Section 19, reference 32.)

North Rode Parish Council, 5 February 2026 (scoping response, Appendix 2 to the Scoping Opinion). Not a resolution on the merits but a list of questions for the Environmental Statement, including: how the River Dane will be crossed; how narrow lanes (Church Lane and Bank Lane) will be crossed and what size of vehicles will use them; how access to farmland “bisected by the working width” and to footpaths will be maintained; what building and farming restrictions will apply “alongside and above the pipeline”; how field and road drains will be reinstated and checked; whether service depots will be sited in the parish; the dates, duration and phasing of the works; and “what recourse will be in place if the work is not done to the satisfaction of the land owners / or problems occur thereafter”. (Source: Scoping Opinion, Appendix 2 — Section 23, reference 4.)

Other parish and town councils on the route. No published resolution had been located at the date of this briefing for the other parishes consulted on scoping (listed in Appendix 1 to the Scoping Opinion), and no formal alliance of parish councils has been found on the public record. Readers with knowledge of resolutions not listed here are invited to supply the minute reference.

G.10 Chester Zoo, 18 August 2026

Institutional statement: “the regional environmental impacts of the Peak Cluster pipeline, as proposed, are unacceptable”; the statement refers to “irreplaceable wetland habitats” and concludes that “decarbonising industry should not come at the expense of nature”. The statement is unattributed to an individual and does not refer to survey access. (Source: Section 19, reference 33.)

G.11 House of Commons

House of Commons, adjournment debate, 15 June 2026, “Carbon Capture Pipeline Projects: Cheshire” (secured by Aphra Brandreth MP). The Minister for Energy (Michael Shanks MP): “The Peak project is being developed independent of Government and is at an early stage.” “Consultation is not a briefing exercise; it is a listening exercise, and a reshaping of things on the basis of what we hear back.” “I have been very clear with developers directly that the project has to take local views into account and offer clear benefits to local communities.” “No decision has been made by the Government either to support the project or on the development consent order process, which will be completed … in a quasi-judicial way, by the Secretary of State.” “Peak Cluster has plans for more extensive consultation later this year, before any final proposals are made.” Aphra Brandreth MP: “What does Cheshire gain from this project? The carbon dioxide is not being captured in Cheshire …”. (Source: Section 19, reference 34.)

Westminster Hall, 15 July 2026, “Peak Cluster Pipeline and Project” (secured by Esther McVey MP; other speakers Andrew Cooper MP, Sarah Russell MP and Jim Shannon MP). Sarah Russell MP: “My concern on behalf of my constituents is that they do not feel engaged with; they do not feel that they have a voice in this process”. The Minister: “Applications must demonstrate genuine community engagement and learning from the views of communities; it is not just a listening exercise but a shaping exercise, and that has not yet concluded”; “It is absolutely critical for any project that wants to succeed in the NSIP process to demonstrate not only that it has carried out consultation but that that consultation has had a meaningful impact on the shaping of the project”; “Peak Cluster is also not one of the clusters that the Government have initially taken forward. We are taking forward two clusters initially to drive carbon capture and storage; the Peak Cluster is not one of them”; and that such schemes “are not delivered by Government; they are private investments”. (Source: Section 19, reference 35.)

Appendix H — Templates for parish councils

Three short templates, offered as starting points and not as forms to be sent unchanged. Each is generic and unsigned; a council should insert its own name, the specifics of its area, and the questions from Section 25 that concern it. The first is for use now; the second when the applicant's Phase 2 material appears; the third at registration in 2027. None of them argues the merits: their purpose is to obtain information and to put the parish's questions on the record (Section 21).

H.1 Letter to the applicant now, copied to the Inspectorate's project mailbox

To: Peak Cluster Limited (consultation@peakcluster.co.uk), copied to the Planning Inspectorate (project mailbox as shown on the EN0710001 project page)

Peak Cluster CCS Pipeline (EN0710001) — questions from [name] Parish Council

The Parish Council represents [number] residents in an area crossed by the corridor published in January 2026. It has resolved to engage with the project on the basis of the information the applicant provides, and writes now, before the second phase of engagement, to ask for the following information so that it can respond to that phase on an informed basis. The Council would be grateful for written answers, and for the Inspectorate to note the questions on the project's advice register.

1. Where within the corridor in this parish is the pipeline now expected to run, and when will the corridor be narrowed to 100 metres?
2. Are any block valve stations, above-ground installations, compressor stations or construction compounds proposed in or adjoining this parish? If so, where, of what size and height, and with what access, lighting and fencing?
3. What is the working width in this parish, and what will be the width of the permanent easement and the restrictions within it?
4. What is the operating pressure and the phase (gas or dense) of the section through this parish, and will the draft Order fix a maximum?
5. Which roads in this parish would carry construction traffic, and for how long?
6. What alternatives to the published corridor were considered in this area, and why were they not preferred?
7. Will the applicant meet the Parish Council before the second phase of engagement?

The Council reserves its position on the proposal pending the answers.

H.2 Response to the applicant's Phase 2 material

Peak Cluster CCS Pipeline (EN0710001) — response of [name] Parish Council to the Phase 2 material published on [date]

1. **What the Council has considered.** [List the documents read — the narrowed corridor maps, any preliminary environmental information, the infrastructure locations.]
2. **Matters on which the Council agrees.** [Anything the applicant has changed in response to the parish's earlier questions.]
3. **Matters on which the Council disagrees, with reasons.** [For each: the specific effect on the parish — a named lane, footpath, school, watercourse, farm access or installation site — and what the Council asks the applicant to change or to assess in the Environmental Statement.]
4. **Questions outstanding.** [Those from H.1 not answered.]
5. **Requirements the Council will ask the Examining Authority to include in the Order if the application proceeds.** [For example: construction hours near named receptors; a haul-route plan excluding named lanes; consultation with the Parish Council on the construction environmental management plan for its area; reinstatement of named hedgerows and walls to a stated standard within a stated period; a footpath reopening scheme; a soil-management and aftercare period.]

The Council asks that this response be recorded in the applicant's engagement summary and be available to the Examining Authority.

H.3 Relevant representation at registration (2027)

The Inspectorate's registration form asks for the principal submissions; the form is the vehicle and this is the content. Keep it to the points the examination can act on (Section 21). A parish may register in its own name and may also encourage residents to register individually with specific points.

[Name] Parish Council registers as an interested party. Its principal submissions are:

1. **Alternatives.** The Council will ask the Examining Authority to test whether the Environmental Statement adequately describes the reasonable alternatives studied in this area [identify: the northern option; a route avoiding named receptors; non-pipeline transport; partial capture for re-use] and the applicant's reasons under the EIA Regulations and, for the National Park section, under EN-1 paragraph 5.10.32.
2. **Compulsory acquisition.** The Council will ask the Examining Authority to test the compelling case in the public interest for the land and rights sought in this parish, and the funding statement, and requests a compulsory acquisition hearing [if the Council is an affected person].
3. **Safety within the regulatory regime.** The Council asks that the Environmental Statement's major-accidents assessment be shown to have addressed [the phase and pressure of the section; block valve spacing; terrain-resolved dispersion for named low-lying receptors], and that HSE's advice be obtained before the close of the examination.
4. **Specific effects.** [Named receptors and effects: traffic on named lanes; noise at named installations; hedgerows, walls and trees on named field boundaries; footpaths; watercourses and drainage; farm access.]
5. **Requirements.** The Council asks for the requirements listed in its Phase 2 response [attach], and for the construction environmental management plan for this area to be prepared in consultation with the Council.
6. **Hearings.** The Council wishes to speak at an open-floor hearing and at any issue-specific hearing on the draft Order.

Appendix I — Compiler's notes: items to be verified and the basis of each Part

These notes were written during the build of each Part and are retained so that the reader can see what was checked, how, and what could not be verified from a primary source. They are part of the report's validation apparatus (Section 28), not part of its findings.

I.0 Changes in version 1.1 (11 September 2026)

Version 1.0 (10 September 2026) was checked by a reader using the validation prompt in Section 28.4 on a general-purpose AI model, in two runs. The runs confirmed the statutory and policy framework, the 24 July 2026 reforms, SI 2026/185, the Scoping Opinion material and the parliamentary answers as cited, and found no discrepant or misattributed quotation. They also produced the following, each of which has been acted on in this version:

1. **Operating date.** The applicant's "Your questions answered" page states "From 2030, Peak Cluster will cut over 3 million tonnes of CO2 emissions per year", whereas its January 2026 programme, March 2026 factsheets and Scoping Report give operation from 2032. The report had given 2032 without noting the website's figure. Section 2 (item 4), Section 12 (item 7), Table 24.1, Section 24.3 and 24.4 now record both dates and that the applicant has not said which is current.
2. **The "12 March 2026" date.** Its source is now identified (the applicant's "Your questions answered" page) in note I.B.3; the report continues to use the dates of SI 2026/185.
3. **Wording of the policy presumption.** "Presumes in favour of consent" (Section 2, Section 17, Section 21) has been replaced by wording that reflects EN-1's own qualification — that the need is treated as settled and consent is expected "in all but the most exceptional cases" once the policy's requirements are met.
4. **Procedural guidance and neutrality.** The runs identified sentences that give procedural guidance (Section 2 "Fifth", Section 5.1, Section 16 item 6, Section 24 "what a parish can do now") and asked whether they were consistent with a report that takes no position. Section 1.4 now states the distinction the report draws — no position on the merits; guidance on procedure, the same for any participant — and the four passages have been reworded so that they describe what the process can and cannot act on rather than instruct the reader.
5. **Reference library grouping.** Six entries in Section 27 were in the wrong group (a Commons Library briefing and a Westminster Hall debate under company/trade press; two Cheshire East Council items and a Network Rail release under press; a Scoping Opinion entry under press) and have been moved. Note I.F.1 records this.
6. **Sources now confirmed.** The UKOPA GPG/036 easement wording, the Cadent easement width and the PD 8010-1 scope statement (note I.B.14), and Breedon's 2025 results (Section 10 reference 25; note I.C.16), have been confirmed from the documents and the references completed with addresses.
7. **Validation prompt.** One run reported that the prompt led the model to check a sample of sources and describe the rest in general terms. Section 28.3 now says so, and the prompt at 28.4 has been rewritten in two stages (a complete register of every reference, then a row-by-row check with alternative addresses for sources that block automated access).

Two further findings from the runs were checked and not acted on: a report that three references (Section 21 no. 25, Section 22 no. 64, Section 23 no. 5) were listed but not cited — Sections 21 and 22 have 23 and 16 references respectively, and Section 23 reference 5 is cited at "[5, paras 5.11.12 and 5.11.34]"; the model appears to have misread the material — and a suggestion that the wording of EN-1 paragraph 3.5.1 could be confirmed from the current text, which the compiler could not independently repeat and which remains at note I.D.2.

Version 1.2 (11 September 2026). The rewritten prompt was run on version 1.1 and returned a register of 597 references across Sections 1–24 with a row-by-row result (571 confirmed or no adverse finding; 22 partial — source identified, exact passage not re-opened; 3 unreachable — Inspectorate project page and advice-log entries, and the land-agent letter cited in Section 22 as private correspondence; 1 adverse). The adverse item — that the Government response to the UK

ETS non-pipeline-transport consultation (Section 10, reference 49) must have been published because the consultation closed on 23 January 2025 — was checked and is not correct: the consultation page states “We are analysing your feedback” and no response has been published; the reference now gives both dates. A repeated observation that Commons Library briefing CBP-9350 was grouped with company and trade-body material was also checked: it is in the Parliament group of Section 27, and the reference in Section 9 is now labelled “parliamentary research briefing”. The remaining recommendations of the run — that status-sensitive statements carry their date, that the 2030/2032 conflict remain visible, and that applicant statements remain distinguished from independent evidence — are met by the existing conventions; a sentence on the cover now states the date to which law, policy and project status are given.

I.A Part A

1. **Sources.** Part A is built on Companies House filings, the National Wealth Fund and Treasury releases, the Inspectorate’s meeting notes and Scoping Opinion (full text), the applicant’s factsheets, Project Guide, programme document and website (all labelled as company statements), Hansard written and oral answers, and NSTA and Centrica material for the store. The Scoping Report itself (Volume 1) could not be downloaded in the build environment; its paragraph numbers and quoted phrases are taken from earlier reads recorded in this project and **should be re-read against the PDF before circulation** (paragraphs 2.6.1, 3.2.67, 3.2.96, 3.2.103–3.2.106, 3.2.116–3.2.131, 5.4.12).
2. **Items not verified from a primary source:** the National Park membership of Green Fairfield, Whaley Bridge and New Mills parishes (partly within the Park on the compiler’s understanding; unmarked pending a check against the Authority’s parish list); Lhoist’s withdrawal (Derbyshire Times only); the shareholdings of the producers and the joint venture; the identity and titles of the company’s chief executive and chair (inconsistent across NWF, Centrica and press); the route-section authority lists (tool-paraphrased from the Project Guide — check against the PDF); the grouping of parish councils by principal authority and the National Park markings in Appendix A (compiler’s attribution).
3. **Deliberately omitted:** the applicant’s economic claims (jobs, “£1.8 billion”, “over 40%”) are reported only as company statements and not adopted; the Treasury release’s “3,500 jobs” and “13,000 jobs” figures likewise. Part D examines them.
4. **Confidentiality sweep:** no individual is named except company directors on the public register (referred to collectively), ministers and Members in Hansard, and elected members in council minutes; no property, holding or landowner is identified.
5. **Cross-references** to Parts B, C, D and E resolve to sections already built (B, C, E) or drafted concurrently (D).

I.B Part B

The following could not be verified from a primary source at the date of this draft and are either flagged in the text or should be checked before the Part is circulated:

1. **Scoping Opinion EN0710001-000018** — read in full on 8 September 2026 (405 pages); section 3.14 and HSE’s letter of 2 February 2026 are now quoted in Sections 6 and 7. The Scoping Report Volume 1 (EN0710001-000013), chapter 18, has not been read and the applicant’s own wording on the loss-of-containment scenario is taken from the Inspectorate’s summary of it.
2. **HSE Research Report RR749** — the PDF is not currently available on hse.gov.uk (returns 404). All quotations are from the peer-reviewed companion paper by the same authors (Hazards XXI, 2009) and from HSE’s own summary page; the report’s authorship and 2009 date are as commonly cited but were not confirmed from the PDF.
3. **The “12 March 2026” date** sometimes used for the HSE reclassification comes from the applicant’s “Your questions answered” page (“On 12th March 2026, the Health and Safety Executive (HSE) announced that carbon dioxide will be defined as a ‘dangerous fluid’…”); no HSE or Government source giving that date was found. The legally verifiable dates are those of SI 2026/185: made 10 March, laid 11 March, in force 6 April 2026, and the report uses those.

4. **COMAH status of above-ground installations** (Section 7) — stated on the basis of the COMAH 2015 named-substance list and CO_2's classification; not confirmed with HSE.
5. **PSR regulation 19** (emergency shut-down valves for pipelines connected to offshore installations) — applicability to the onshore section of a pipeline continuing offshore is a point of construction for HSE.
6. **Whether "local authority" in PSR regulation 2 catches Wirral Council** as "a council having the functions of a county council", as well as the Merseyside fire authority — not resolved.
7. **Blight: paragraph 24 of Schedule 13 and rights-only acquisition** — no authority found either way.
8. **NPPF December 2024 paragraph number** for the best and most versatile land footnote — not confirmed from the PDF (a secondary source gives paragraph 187, footnote 65); the reference cites the chapter only.
9. **EN-1 (2025 revision, in force 6 January 2026)** — Parts 4–5 could not be read; the Part does not currently cite EN-1 on safety or blight. The revised EN-1 should be checked for its HSE/major-accident paragraphs before Section 7 is finalised.
10. **ASME paper numbers and DOIs** for the CO2SafeArrest Part 1–3 papers and the IPC2014/2016 COOLTRANS papers — titles and venues verified; DOI strings not.
11. **Sulphur, Louisiana 2024** — quantity and alert-system detail are press-sourced; the operator's PHMSA accident report should be obtained from the PHMSA flagged-files dataset.
12. **Engine-stall concentration** — no authoritative figure exists; the text deliberately gives none.
13. All derived figures (inventory, base-rate applications, Satartia tonnage, US incident rate) use the assumptions stated in the text and should be recomputed if the applicant publishes pressure, wall thickness or valve spacing.
14. **Verification status.** An independent check of this draft against its sources was carried out on 8 September 2026: every statutory quotation, the HSE, PHMSA, IEAGHG and IPCC quotations, the enforcement figures and dates, and all derived arithmetic were confirmed; reference titles and two misattributed quotations found in the check have been corrected. Items still not confirmable from the primary document (paywalled or blocked): the COSHER crater dimensions (Ahmad et al. 2015), the IGEM/TD/1 scope statement and the TNO OCAP report figures — each is taken from a catalogue page or a secondary technical summary and should be checked against the document itself before circulation. The UKOPA GPG/036 easement wording (section 3.2 of the guide, now at ukopa.co.uk/wp-content/uploads/2025/09/GPG036-…-Approved-Jan-2022.pdf), the Cadent Easement Guidance width ("HP Steel 900mm, 1060mm, 1200mm (36", 42" & 48") 24.4m (80')") and the PD 8010-1 scope statement (BSI catalogue) were confirmed from the documents on 11 September 2026.
15. **Re-issue of 9 September 2026 — phase of the pipeline.** The first issue stated that the applicant had not published the phase. The applicant's EIA Scoping Report (EN0710001-000013, January 2026) in fact states at paragraph 3.2.67 that the onshore trunk would carry CO_2 "in a gas phase" and at 3.2.128 that the coastal section "could be dense phase … in later years of the operational life". This re-issue corrects the front matter and Section 5.2; adds to 5.1 the basis on which the Part treats the dense-phase case as the design case; replaces Table 5.1 with a two-phase table; adds a subsection "Gas phase or dense phase" with Table 5.2 (indicative capacity, derived) and the HSE 2009 gas-phase hazard ranges; adds the Satartia rupture-to-village distance to Section 6; adds a Section 6.3 bullet on distances to structures; and sets four further key findings in bold. The Scoping Report paragraph numbers were read from the published PDF; the Report itself could not be downloaded in the build environment used for this re-issue and the wording is taken from a separate note of 9 September 2026 that read it, so **paragraphs 3.2.67, 3.2.96, 3.2.103–3.2.106 and 3.2.116–3.2.131 should be re-read against the PDF before circulation.** The HyNet Environmental Statement figures (36-inch at "approximately 35 barg", "up to 10 MtCO2/yr") were read from the published chapter. The capacity figures in Table 5.2 are a screening calculation (isothermal, Colebrook friction, Peng–Robinson densities, no elevation, no intermediate compression) and should be treated as order-of-magnitude.

I.C Part C

The following could not be verified from a primary source at the date of this draft, or rest on trade-body, company or press statements, and should be checked before this Part is circulated:

1. **Site-level CO_2 emissions** for Hope, Tunstead (cement and lime) and Cauldon — published in the UK ETS registry compliance reports (reports.view-emissions-trading-registry.service.gov.uk), which the tools could not retrieve. A table should be added to Section 10.
2. **Consortium changes** — Lhoist's withdrawal and the Hindlow works' status rest on the disappearance of those sites between the July 2024 Inspectorate note and the January 2026 Scoping Report, plus a Derbyshire Times report (3 February 2026); no primary statement of the reason was found.
3. **MPA 2020 roadmap shares** — the 61% CCUS share is as reported at launch; the PDF's fuel-switching and low-carbon-cement percentages could not be read consistently and are not quoted.
4. **Tunstead actual cement output** — permitted capacity only; Tunstead and Hope rail tonnages and train frequencies are trade press.
5. **Cauldon Lowe branch** — last freight date and whether the works retains a siding; Buxton sidings extension funder and cost.
6. **DB Cargo figures** (60-tonne wagons; 11–17 trains a day; 4 Mtpa) — trade press reporting a company study; primary release not located.
7. **UK liquid-CO_2 rail history** — enthusiast source only.
8. **US rail cost models** — *Frontiers in Energy Research* is an indexed but lower-prestige venue; used for the crossover volumes only, with that caveat stated in the reference list.
9. **SI 2011/1483 regulations 7 and 10** and SI 2010/2221 Schedules 1–2 — quoted from the fetch tool's rendering of legislation.gov.uk; the tool paraphrases long provisions and the exact wording should be re-read on the site before circulation.
10. **Crown Estate agreement for lease for MNZ**; **total wells** in the Morecambe fields including exploration and appraisal wells; **Cumbrian Coast line freight capability**; **rail facilities at Ellesmere Port/Stanlow**.
11. **Scoping Report Volume 1 section 3.4** (design evolution and alternatives) — not read for this draft; the applicant's alternatives are taken from its factsheet, website and the Inspectorate's and Natural England's scoping comments.
12. **e-methanol and mineralisation arithmetic** (Section 10) — derived from IRENA ratios and Defra waste statistics with stated assumptions; the 7%-of-UK-generation figure assumes about 55 MWh of electricity per tonne of hydrogen and about 300 TWh of annual UK generation.
13. **Peak Cluster's own liquefaction/compression energy** — no published figure; the 35–40 MW rail-option figure is gross, not net of pipeline compression.
14. **Re-use option (Section 10, Tables 10.2 and 10.3)** — the demand figures are assembled from sources of differing quality: merchant market (BEIS 2017/FDF 2019, dated); horticulture (BEIS 2017 projection); mineralisation (derived from Defra waste statistics with stated carbonation rates); power-to-liquid (derived from SI 2024/1187 percentages, DfT fuel projections and a dena CO_2-per-tonne figure). Eligibility of cement-kiln CO_2 under the SAF Mandate is inferred from the Order's definitions and not confirmed by DfT. The purification cost scaling (£100–250 million) is an order-of-magnitude illustration from Northwich's unit cost. The merchant price figures are think-tank/trade-body reports. The BEIS 2020 dispersed-sites figures are 2020 prices. 15b. **Cost-structure sensitivity (Table 11.1)** — the pipeline capital share (90%) is ZEP's general statement applied to the BEIS figure; the rail capital share (20–40%) is an assumption with no published UK source; whether the BEIS rail figure includes liquefaction or any wagon/terminal capital is not stated in the report (its rail and road costs rest on "fuel consumption" assumptions); the 6.6 Mtpa / 3 Mtpa utilisation is from the NWF factsheet and the applicant's emissions figure. The BEIS "undiscounted" / "Discount rate: 0%" statements were confirmed by three separate reads of the PDF (page 9 footnote 1; Appendix A4 page 63) but the file could not be downloaded here — check the two pages directly before circulation. 15a. **Rail tonnage conversion (Table 12.2)** — trains of 20–25 ×

60-tonne wagons; 7-day and 6-day (310-day) working; fleet on a two-day cycle plus 20% spares; the “fifteen to twenty loaded trains a day” base is assembled from trade-press and planning figures for Tunstead, Dove Holes and Hope and is not a published count; the 26-wagon Buxton sidings figure is trade press.

15. **Geography of comparators** — Brevik’s quay-side loading and Padeswood’s 10 km spur are from Heidelberg company statements; the statement that the first wave of cement capture projects is coastal, port-connected or cluster-adjacent is an observation from the projects named in this Part, not a published survey.
16. **Verification status.** An independent check of this draft against its sources was carried out on 8 September 2026 (about 75 cited pages re-read; the Scoping Opinion checked against its full text). Fourteen wrong or misattributed quotations and figures found by the check have been corrected, including: O.C.O’s tonnage (company total, not one plant); the Inspectorate’s capture-technology comment (ID 2.1.1, Breedon-specific); the Mergelstetten kiln (CI4C, not Heidelberg alone); the Morecambe well count (46, plus two at Rhyl); the Hope Valley Inspector’s wording; and the removal of an unsourced “FID 2028” quotation. Items still not confirmable from the cited page: the Staffordshire County Council Cauldon report figures (URL resolves to an index page); the HyNet Recommendation Report quotations (PINS document store blocked); Scoping Report paragraphs 3.2.6–3.2.8; the GCCA and MPA roadmap percentages; the IRENA methanol ratios; the Rail Magazine Salford and Cemex Warrington figures; and the Cemex/Great Rocks operating details (trade press).

I.D Part D

1. **Sources.** Part D is built on Government publications (CCUS Vision, cluster-sequencing updates, business-model documents, selection guidance, NPT consultation), the Energy Act 2023, Hansard written and oral answers of May–July 2026, the NAO and PAC reports, the CCC’s Seventh Carbon Budget, the CMA’s subsidy assessment, the Viking funding statement and decision letter, and labelled company and trade-body statements.
2. **Items not verified from a primary source:** the wording of EN-1 paragraph 3.5.1 as quoted in Section 14 (a full read earlier in this project returned the sentence quoted; a truncated read during verification returned a different sentence for the same number — check against the PDF); the UK ETS allowance price (market-data site); the CBAM secondary legislation number (SI 2026/809) and Finance Act 2026 provisions (press); the Viking “£200m” press figure (the funding statement’s £240 million is used); the MPA roadmap lever percentages (tool extraction ambiguous); Track-2 Viking development funding (£65.5m, press); the CCC’s chapter-level tonnage figures for industrial CCS (chapter not retrievable).
3. **Derived figures:** the Viking per-kilometre rate (£240m ÷ 55 km ≈ £4.4m/km) and its mechanical application to 195 km are order-of-magnitude only and are labelled as such; the larger bore, terrain, installations, compression, capture plants and offshore works are excluded and stated to be.
4. **Not stated:** any Peak Cluster or MNZ application for an economic licence, capture contract or Government support — none found; the text says so rather than inferring.
5. **Section 16** is labelled as debate in its heading, its first paragraph and the Part’s conventions; it draws no conclusion on the merits and attributes each position to “supporters”/“critics” without naming organisations except where quoting a published position already cited.
6. **Confidentiality sweep:** no individual is named except ministers and Members in Hansard and named executives in cited company releases (none quoted by name in this Part).

I.E Part E

1. **Sections 17–23 and Appendices F–G** are built on three research passes over primary sources (legislation.gov.uk, gov.uk guidance, the Inspectorate’s project page and Scoping Opinion, council democracy pages, Hansard) and a full-text extraction of the Scoping Opinion. Every quotation is either verbatim from the source or is marked as reported.

2. **Items not verified from the primary source, to be checked by hand before circulation:**

   – The subject of the section 35 direction referred to in the Inspectorate’s advice log for 22 July 2026 (Section 17). The log does not say what the direction would cover; “capture plants” is inference and is labelled as such.

- Cheshire East Council's resolution of 30 April 2026 and its Appendix A consultation response (both returned 403 to the tools used); the fate of the 15 July 2026 motion after referral to Cabinet.
- Cheshire West and Chester Council's motion of 21 April 2026 — text, vote and minute.
- Derbyshire County Council's cost-recovery decision record (July 2026).
- Wirral Council Policy and Resources Committee decision of 9 September 2026 — press-reported (ITV, 10 September) as a unanimous refusal; the minute should be substituted when published.
- The July 2026 Westminster Hall debate has been identified: 15 July 2026, "Peak Cluster Pipeline and Project", secured by Esther McVey MP (Hansard vol. 789). The MP briefing note of 2 September 2026 in this project dates it to 28 July 2026 (a recess day) and quotes the press paraphrase of the Minister; **both should be corrected to the Hansard text now given in Appendix G.11.**
- EN-1 paragraphs in Parts 4 and 5 (4.1.3, 4.1.7, 4.2.16–4.2.17, 4.2.28, 4.2.30, 4.3.9–4.3.29, 5.10.7, 5.10.32, 5.11.12, 5.11.34) and 3.2.14 were read through fetch tools that truncate long pages; the wording is as returned by a full read in one pass and should be checked against the published text. The transitional sentence is at paragraph 1.6.2 and the 16.093 km sentence at 3.5.5.
- Section 11A of the 1949 Act: the "seek to further" wording is as summarised by the tool; the subsection text should be checked.
- The 2 November 2026 date for outline biodiversity net gain plans (Section 23, reference 11) is as returned from the July 2026 guidance page and should be confirmed.
- Whether the applicant gave a section 46 notification before 24 July 2026 (transitional provision, SI 2026/641 regulation 6). Not determinable from public sources; does not change the analysis for a September 2027 submission.
- The Inspectorate's advice log entries of 22 July 2026 (section 35; "remove mention of statutory consultation and the adequacy of consultation milestone") are cited from the 14 August 2026 version (EN0710001-000313), which should be re-read; the 15 December 2025 entry on section 172 is in the 31 March 2026 version (EN0710001-000212) held in the project.
- Wirral Policy and Resources report, 9 September 2026: the fee and cap figures in Appendix G.2 should be re-read from the report.

3. **Practice points deliberately omitted from the text:** the 1,500-word threshold for a summary of a written representation is an Inspectorate timetable practice (Rule 8), not in SI 2010/103, and has not been stated as a rule; the Model Provisions Order 2009 is no longer used (Advice Note 15, para 1.3) but legislation.gov.uk records no formal revocation, so it is not described as revoked.

4. **Confidentiality sweep.** No individual is named except elected members, MPs and ministers speaking in public proceedings and cited authors; officers are referred to by title only. No farm, holding, title or property is identified. The section 51 advice of August 2026 cited in Sections 17, 18 and 20 is published by the Inspectorate under the correspondent's name; the citations here point to the general advice register, not the individual item. The July 2026 land-agent correspondence quoted in Section 22 is cited as correspondence to landowners generally and not to the public record; if a public source is preferred, the quotation can be dropped without affecting the argument.

5. **Cross-references to Parts not yet built:** Section 3 (promoter), Section 4 (route), Sections 14–16 (Part D) and Appendix A (corridor by parish). These will need to be checked when those Parts exist.

6. **Bold convention** applied at one to three sentences per section: 17 (CNP; repeal of consultation duties), 18 (no body can require disclosure before application), 19 (positions pattern; parish standing), 20 (s.53 reform), 21 (relevant representation on the right grounds; deadline), 22 (timing and evidence), 23 (National Park test; permanent easement; pipeline

left in situ as permanent impairment; no community-benefit entitlement; requirements shaped only at examination; undertaker-only appeal; effects not reopened after consent).

I.F Part F

1. **Sections 25 and 27 are compiled** from the question and reference lists of Sections 1 to 23 by script; wording is as in the source sections. Section 27's grouping by source type is automatic; it was checked by eye on 11 September 2026 and six entries moved to the correct group (a Commons Library briefing and a Westminster Hall debate to Parliament; two Cheshire East Council items and a Network Rail release to official bodies; a Scoping Opinion entry to the Inspectorate group). The register table in 27.1 lists the documents cited; the register itself has more.
2. **Appendix C** reproduces the text returned from legislation.gov.uk on 10 September 2026 by an automated fetch, with the page's "up to date … on or before" line where returned. The fetch tool omitted the exact run of dots for repealed subsections in ss.46(2), 51(2), 53(2) and 161(5); s.50 and s.55 are given in the form in force from 24 July 2026, taken from point-in-time pages; regulation 22 of the Pipelines Safety Regulations turned out to be "Notification in other cases", so regulation 20 ("Notification before construction") is included as well. **The extracts should be checked against the live pages before circulation**, and readers are reminded in the appendix that the live page is authoritative.
3. **The Inspectorate's project mailbox** address is not reproduced in H.1; it is on the project page and may change.
4. **Templates** are deliberately spare and refer to Sections 21 and 25; they should not be circulated without the sections they depend on.
5. **Confidentiality sweep:** no individual, property or holding is identified in this Part.
6. **Section 28** was reproduced from the Introduction and Validation document of 10 September 2026; the validation prompt at 28.4 was rewritten for version 1.1 (see the version note at the head of this appendix).