Immingham Green Energy Terminal

9.3 Applicant's Responses to the Examining Authority's First Written Questions

(Responses to "Q1.3. Climate Change")

Infrastructure Planning (Examination Procedure) Rules 2010

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Chapter **Pages**

1 Introduction

Overview

1.1 This document has been prepared to accompany an application made to the Secretary of State for Transport (the "Application") under section 37 of the Planning Act 2008 ("PA 2008") for a development consent order ("DCO") to authorise the construction and operation of the proposed Immingham Green Energy Terminal ("the Project").

1.2 The Application is submitted by Associated British Ports ("the Applicant"). The Applicant was established in 1981 following the privatisation of the British Transport Docks Board. **The Funding Statement** [**APP-010**] provides further information.

1.3 The Project as proposed by the Applicant falls within the definition of a Nationally Significant Infrastructure Project ("NSIP") as set out in Sections 14(1)(j), 24(2) and 24(3)(c) of the PA 2008.

The Project

1.4 The Applicant is seeking to construct, operate and maintain the Immingham Green Energy Terminal, comprising a new multi-user liquid bulk green energy terminal located on the eastern side of the Port of Immingham (the "Port").

1.5 The Project includes the construction and operation of a green hydrogen production facility, which would be delivered and operated by Air Products (BR) Limited ("Air Products"). Air Products will be the first customer of the new terminal, whereby green ammonia will be imported via the jetty and converted on-site into green hydrogen, making a positive contribution to the UK's net zero agenda by helping to decarbonise the United Kingdom's (UK) industrial activities and in particular the heavy transport sector.

1.6 A detailed description of the Project is included in **Chapter 2: The Project** of the Environmental Statement ("ES") **[APP-044]**.

Purpose and Structure of this Document

1.7 This document contains the Applicant's responses to those of the Examining Authority's Written Questions 1 **[PD-008]** grouped under the theme "Q1.3. Climate Change". It represents one of a collection of eighteen such documents, each of which addresses a different theme.

1.8 Responses are ordered ascendingly by reference number, replicating the structure of the Examining Authority's Written Questions 1.

1.9 Responses are provided in a table. The text of the question appears on the lefthand side, with the Applicant's answer to its right.

1.10 Further materials pertinent to the Applicant's response are included at the end of the document as appendices where necessary.

2 Applicant's Responses to the Examining Authority's First Round of Written Questions

Q1.3. Climate Change	
Q1.3.1 Establishing the Legislative and Policy Framework	
Q1.3.1.1	
Question	**Response**
Other Important and Relevant Matters On one hand, pursuant to s104(2)(a) of the PA2008, Paragraph 4.12.3 of the NPSfP sets out that the decision maker does not need to consider the impact of a new port development on GHG emissions from ships transiting to and from the port. On the other hand, the UK has obligations under the Paris Agreement, the Climate Change Act 2008 (2050 Target Amendment) Order 2019 and associated carbon budgets that involve managing GHG emissions from shipping. a) Explain how the Proposed Development aligns with both areas of legislative and policy requirements. b) Furthermore, explain how you reconciled or prioritised any areas of conflicting legislative and policy requirements	a) The Project aligns with both the National Policy Statement for Ports ("NPSfP") and the inclusion of shipping carbon budgets. The NPSfP states that the decision maker does not need to consider the impact of shipping emissions. However, it does not preclude the Applicant including these emissions, so the assessment is in line with the NPSfP. The inclusion of shipping emissions also aligns the assessments with later policy from the UK which includes shipping emissions in carbon budgets and net zero targets. b) The Applicant does not believe there is any conflict between the two sets of legislation and policies laid out in the question. It is a reasonable worst-case approach to consider shipping emissions and is in alignment with both areas of legislative and policy requirements.
Q1.3.1.2	
Question	**Response**

Case Law on Downstream Effects The Judgement in Finch v Surrey County Council [2022] EWCA Civ 187 dealt with an issue under Directive 2011/92 EU of the European Parliament and of the Council and the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and whether it was unlawful for the council not to require the EIA for a project of crude oil extraction for commercial purposes to include an assessment of the impacts of downstream GHG emissions resulting from the eventual use of the refined products of the extracted oil. a) Provide the Judgement in full for the purposes of Examination. b) Explain what downstream effects are, and whether they are relevant with reference to the Proposed Development. c) Explain whether this Judgement, or any subsequent Judgement handed down by the Supreme Court, should have a bearing on how the Proposed Development is examined.	a) Please see **Appendix 1** for a copy of this Judgment. b) "Downstream effects" are not defined in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ("EIA Regulations"). "Downstream" typically refers to something that happens later in a process or series of events. In the context of greenhouse gas ("GHG") assessment for organisations, "downstream" activities would depend on the nature of the organisation in question but, where their activities involve end products, would typically include activities such as the processing, use and end-of-life treatment of those sold products. In the Court of Appeal judgment in Finch v Surrey County Council [2022] EWCA Civ 187 ("Finch"), the "downstream" GHG emissions referred to were the GHG emissions arising from the combustion of the refined products made from the crude oil which would be extracted by the development. The legal question of relevance, however, was whether any such effects comprised "indirect" effects of the proposed development (the extraction of the crude oil). This is because UK regulations on Environmental Impact Assessment ("EIA") (of relevance in this case Regulation 5(2), Regulation 14(2) and Schedule 4 of the EIA Regulations) together require an EIA to identify, describe and assess, and the Environmental Statement ("ES") to describe, the "indirect" significant effects of a proposed development. The EIA Regulations do not define such "indirect" effects. As set out in the extracts from the Court of Appeal's judgment in Finch below, the legislation for EIA requires only the assessment of effects of "the proposed development" or "the project". That assessment is intended to inform the process of determining whether to grant development consent for a particular development. That applies equally to the consideration of indirect effects. Any indirect effects only need to be

	assessed if they are truly effects of the "proposed development", i.e. the project in hand. This is an example of the application of the underlying principles that (a) EIA is not intended to regulate the environmental effects of commercial activity or use of land in general and is only engaged when a grant of development consent for a particular project of development is necessary; and (b) an ES is not expected to include more information than is reasonably required to assess the likely significant effects of the proposed development. Finch confirms (Paragraph 15(5)) the principles governing EIA (based on European and domestic case law) include: that the existence and nature of "indirect" effects will always depend on the particular facts and circumstances of the development under consideration; and (Paragraph 15(6)) that where an EIA has to address the "indirect" effects of a proposed development, it must include a sufficient assessment of such effects. The following extracts from the Court of Appeal judgment are relevant in explaining and illustrating the underlying principles: Paragraph 33: "*Here, the extraction of crude oil for commercial purposes was the essential content and character of the proposed development. That was the project. The ultimate use of the products generated by the subsequent refinement of the crude oil was not part of that project. Nor, indeed, was the refinement process itself, which would be, in its own right, a separate and substantial industrial activity carried out for profit by the companies concerned. Nor were the distribution and sale of the refined products, which would also be separate commercial activities*."

	Paragraph 34: In referring to a case relating to exploration for shale gas (Frackman), the Court of Appeal noted that project was "*confined to exploration for shale gas*" and did not include any subsequent commercial production, which would only follow, as "*a second, distinct and different project – if, but only if, the exploration project proved the existence of a viable resource of gas"* and which "*would have to be considered on its own planning merits when the time came, in the light of the assessment contained in its own environmental statement*". Anticipating what any future, separate project for extraction might comprise was "*a matter of conjecture*" and "*hypothetical*". The Court reiterated the two principles above and noted "*that an environmental statement is not expected to include more information than is reasonably required to assess the likely significant environmental effects of the development proposed, in the light of current knowledge …*". Paragraph 37: "*One must remember that the process of environmental impact assessment is not an end in itself. It is a process with a specific procedure set out in the EIA Directive and the EIA regulations, and it must be carried out in accordance with that procedure. But it is, ultimately, a means of informing and strengthening a larger process, which is the process of determining an application for planning permission for "development" under the planning legislation …. The regime is not intended to regulate the environmental effects of economic or commercial activity, or of the use of land, in general. It is only engaged when a grant of "development consent" for a particular project of development is necessary*." Paragraph 38: "*It is therefore unsurprising, indeed essential, that the legislation for environmental impact assessment explicitly and consistently requires only the assessment of effects "of the proposed development" or "of the project". That assessment is expected to assist the overarching process for "development consent" which it serves, and into which it is*

	integrated – as is conspicuous, for example, in article 5(1)(c) of the EIA Directive and regulation 18(3) of the EIA regulations. To do this, it must be commensurate with the project itself. It is, as Ms Townsend submitted, "project-centric". Logically, this must apply not merely to the "direct … significant effects" of the development but also to significant effects which are "indirect". Therefore, as Mr Richard Moules submitted for the Secretary of State, to determine whether something is an "indirect" effect under the legislation for environmental impact assessment, the decision-making authority must ascertain whether it is truly an effect "of the proposed development". To come within the reach of the legislation, it must be identifiably an effect of the project in hand (see, for example, Frackman, at paragraph 68)." Paragraph 60: "*The essential question for "the relevant planning authority" in a case such as this, therefore, is whether there is, in fact, a sufficient causal connection between the project under consideration and a particular impact on the environment for that impact to constitute one of the "indirect significant effects of the proposed development*". Paragraph 64: "*To require assessment under the legislation for environmental impact assessment, impacts on the environment must be effects "of the proposed development". They must have, in the decision-maker's judgment, a sufficiently close connection with that particular development to be at least indirect effects of it.*" Paragraph 65: The Court of Appeal referred to the case of Squire v Shropshire Council where it had previously held that an EIA was defective because it failed to assess the environmental effects of a product incidental to the proposed development itself – the manure produced by chickens in the proposed poultry sheds, some of which would be sold to local farmers for storage and spreading on agricultural land. It was common ground in that case that such effects were "indirect" effects of

	that project of development. "*In that case the manure was a product of the development itself in its operation as a poultry enterprise: a waste product with a commercial value. The connection between the development and the impacts in question was clear as a matter of fact, and not dependent on a series of intermediate processes. Here, by contrast, the crude oil extracted at the application site could only find its way to the various uses that might be responsible for the impacts in question once it had passed through several other distinct processes and activities, including, initially, its refinement, followed by the onward transportation and distribution of the refined products, and their eventual sale for use as fuel, which would only then, in various places at various times, produce emissions of greenhouse gases*." In summary, the question of whether an ES must assess certain effects as being "indirect" effects of a proposed development, depends on a judgment as to whether any such effects are truly an effect of the proposed development. In the case of the hydrogen production facility, the essential content and character of that part of the Project is to produce low carbon hydrogen (the sole purpose for importing and processing green ammonia). That product (in liquid or gaseous form) will be used directly either as a fuel (likely displacing higher carbon fuels) or a feedstock into another process (again likely displacing higher carbon feedstock). It is not subject to subsequent refinement before its use or other intermediate processes. It is sold direct to customers for immediate use. As a result, the likely displacement of GHG emissions is identifiably an effect of the Project as it is a reduction against the baseline activity of continued fossil fuel usage in line with IEMA guidance Section 5.3. As such, it is a likely significant indirect beneficial effect of the Project for the purposes of the EIA Regulations. Indeed, it is that beneficial effect and

	those GHG savings that drive the market in green hydrogen and the need for the hydrogen production facility. In the case of the Project, the storage of captured carbon would represent a reduction against the baseline activity of continued fossil fuel usage in industrial actions without carbon capture and storage. As such, it is a likely significant indirect beneficial effect of the Project for the purposes of the EIA Regulations as the capacity to receive and store carbon will enable the upscaling of carbon capture projects in areas not connected to existing clusters. c) The Court of Appeal judgment should therefore have a bearing on how the Project is examined. The same may well be true of any subsequent judgment by the Supreme Court. Regulation 21(1) of the EIA Regulations requires the Secretary of State to (a) examine the environmental information provided; (b) reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account that examination and, where appropriate, any supplementary examination considered necessary; (c) integrate that conclusion into the decision as to whether an order is to be granted; and (d) if an order is to be made, consider whether it is appropriate to impose monitoring measures (this requirement relates only to significant adverse effects). As explained above, the significant effects of the Project include the likely significant indirect beneficial effects of the emissions displacement arising from the use of low carbon hydrogen. These effects are reported in **Paragraph 19.8.11** of **ES Chapter 19 [APP-061]**.
Q1.3.2 Greenhouse Gas Emissions within the Supply Chain	

Q1.3.2.1	
Question	**Response**
Methodology Data The ES [APP-061, Paragraph 19.4.8] sets out where GHG activity data was unavailable, assumptions and estimations have been developed. Are these assumptions based on worst case scenarios? Explain with reasons.	Some of the activity data associated with the Project are not available at this stage as is entirely typical for a major Project at this stage of development. Appropriate assumptions and estimations have therefore been developed to provide a quantified assessment of GHG emissions of the Project in the ES. The assumptions that inform the GHG emissions calculations in the ES are based on appropriate industry estimates and averages with a reasonable worst-case approach used for any uncertainty, in line with suggestions in IEMA guidance[1]. Assumptions and estimations applied are detailed in **Paragraph 19.4.51 of ES Chapter 19: Climate Change [APP-061]**, with explanation and justification to set out why they are representative of a reasonable worst-case scenario. **Reference:** [1]IEMA (2022). Launch of the Updated EIA Guidance on Assessing GHG Emissions - February 2022. [Online] https://www.iema.net/resources/blog/2022/02/28/launch-of-the-updated-eia-guidance-on-assessing-ghg-emissions (accessed February 2024).
Q1.3.2.2	
Question	**Response**

GHG Emissions from the Processing of Ammonia into Hydrogen The ES [APP-061, Table 19-3] cites primary emission sources as comprising GHG emissions from energy use, process operations, additional traffic, provision of potable water, and treatment of wastewater. For clarity, does this include GHG emissions derived from the processing of ammonia into hydrogen?	Yes. The assessment and operational energy usage described in **Table 19-3** of **Environmental Statement ("ES") Chapter 19: Climate Change [APP-061]** includes the GHG emissions associated with processing ammonia to hydrogen. This energy usage is from the natural gas used to power the process, with the emissions detailed in Table 19-20. The potential for decarbonising these emissions over time is covered in **Paragraph 19.8.19** of **ES Chapter 19 [APP-061]** and in response to question Q1.3.2.14.
Q1.3.2.3	
Question	**Response**
GHG Emissions from Other Liquid Bulk Cargos a) The ES [APP-061, Table 19-3] cites primary emission sources as comprising GHG emissions from shipping associated with the import and export of ammonia and carbon dioxide. b) Does this account for the worst case scenario on ship movements? c) For example, if the Proposed Development dealt with liquid bulk cargos other than ammonia and carbon dioxide, could the ships' origins and destinations be different and result in an increase in distance travelled and a subsequent increase in GHG emissions?	b) As detailed in response to Q1.3.2.6, the distances assessed are considered to be a reasonable worst-case scenario. These distances were assumed based on available data at the time of the submission of the **ES [APP-061]**. The information is being verified to confirm its accuracy. c) As detailed in response to Q1.3.2.6, other liquid bulk cargos would require additional landside infrastructure which would require new and separate planning consents. The origins and destinations assessed are a reasonable worst-case scenario.
Q1.3.2.4	
Question	**Response**

List of Potential Origin and Destination Countries and Potential Cargo

Is it possible to establish a list that defines potential origin and destination countries for all potential cargo and explain how the resultant travel distances have been factored into the GHG assessment calculations in the ES [APP-061, Table 19-20]? This would help provide more clarity on the worst case scenario for shipping GHG emissions.

Section 5.3 of IEMA greenhouse gas guidance[1] states that a GHG assessment should seek to present a reasonable worst case.

A list of all the assumptions for import origins, export destinations, and their respective travel distances used within the Environmental Statement's ("ES's") GHG calculations are outlined below. As shown, it is assumed that ammonia imports would come from three different locations, and that a third of ammonia imports would come from each location. For non-ammonia imports (CO_2) an average shipping distance of 500 nautical miles (926km) is assumed.

The three assumed import origins for ammonia were considered to represent a reasonable scenario and therefore are considered a reasonable worst-case scenario for the GHG assessment:

Activity	**Distance (km)**
Import origin – Saudi Arabia (ammonia)	13,683
Import origin – Oman (ammonia)	11,262
Import origin – Netherlands (ammonia)	523
Import origin – Average Shipping Distance (CO_2)	926
Export destination – Port Talbot (non-ammonia)	1,355

	<table><tr><td>Export destination – Port Talbot (ammonia)</td><td>1,355</td></tr><tr><td>Export distance – Road transport of hydrogen</td><td>400</td></tr></table> These distances were assumed based on available data at the time of the submission of the **ES [APP-061]**. The information is being verified to confirm its accuracy. **References:** [1] IEMA (2022). Launch of the Updated EIA Guidance on Assessing GHG Emissions - February 2022. [Online] https://www.iema.net/resources/blog/2022/02/28/launch-of-the-updated-eia-guidance-on-assessing-ghg-emissions (accessed February 2024).
Q1.3.2.5	
Question	**Response**
GHG Emissions from Beginning of Supply Chain The ES [APP-061, Table 19-3] does not include primary emission sources derived from the beginning of the supply chain. For example, the processing of ammonia in Saudi Arabia, or other such locations, before shipping to the UK. a) Should these primary emission sources be factored into the GHG assessment, and if not, should this be identified as a limitation in the ES [APP-061, Table 19-12]?	a) The primary emissions sources identified should not be factored into the GHG assessment. As explained in Finch (see the response to Q1.3.1.2), the focus of any assessment under the EIA Regulations must be on the "development" that is subject to the application for development consent. It is not an assessment of the environmental effects of a particular commercial activity more generally. There is a significant body of case law on what

b) Does the processing of ammonia in Saudi Arabia, or other such locations, have low carbon certification?	constitutes the proposed development or project for the purposes of the EIA Regulations. A recent summary is found in the Court of Appeal judgment in the case of Together Against Sizewell C Limited [2023] EWCA Civ 1517. *"70. What constitutes the relevant project, as a matter of fact and the decision-maker's evaluative – or planning – judgment, will always depend on the facts and circumstances of the particular case. And it is not possible to state any hard and fast rules governing a decision-maker's exercise of judgment. That exercise of judgment carries a wide range of discretion. There are, however, three general points to be made about it.* *71. First, as we have said, the decision-maker must be alert to the mischief of "salami-slicing", or "project-splitting" being resorted to in an attempt to evade the requisite assessment. Secondly however, in a case where two or more separate developments with some physical or functional connection to each other are being promoted through different or successive processes, the likelihood or even certainty of their having cumulative effects on the environment, or on a specific habitat, does not mean that they necessarily compose a single project. The effects may be cumulative, but the projects themselves separate and different. And thirdly, without seeking to prescribe the method by which a decision-maker should judge the nature and scope of a project, or the existence or absence of a single project rather than two or more, it is possible to identify several factors capable of influencing such an exercise. As Lang J. suggested in Wingfield (at paragraphs 64 and 73 of her judgment), without contradiction by this court in Ashchurch (see the judgment of Andrews L.J., at paragraph 81), the relevant considerations can include "common ownership", "functional interdependence", the question of whether the project stands on its own and would be promoted independently of other development, and the question of "simultaneous determination". As Holgate J. rightly acknowledged, whether one or more of these potentially relevant factors is especially significant, and the weight it should be given, are for the decision-maker to assess, on the facts of the case in hand."* The initial import of green ammonia from Saudi Arabia is a likely scenario, given that facility is under development and Air Products is one of a number of current investors in its development. However, it is not the only

	potential source of green ammonia to be imported to the Project (as identified in response to Q1.3.2.4 above). Further, and importantly, the Project will not be the only recipient of the green ammonia produced in Saudi Arabia. The facility will serve multiple hydrogen production facilities and its continued development and operation is not dependent on the Project. Air Products itself intends to purchase and import green ammonia from Saudi Arabia into hydrogen production facilities to be constructed at Rotterdam and Hamburg, in addition to Immingham. As is clear from the application of the above legal tests, the "upstream" facility at Saudi Arabia is a separate project for the purposes of the EIA Regulations. It has been separately consented in accordance with the requirements of that jurisdiction; it has been promoted independently and is already under construction, there has not been simultaneous determination. The two projects are in separate ownership. They are not dependent on each other – the facility at Saudi Arabia will be developed irrespective of whether the Project comes forward and stands on its own. Accordingly, there is no legal requirement for the EIA of the Project for the purposes of the EIA Regulations to take into account the likely significant effects of the construction and operation of the upstream facility at Saudi Arabia. As set out in the assumption in **Paragraph 19.4.51(e)** of **Environmental Statement ("ES") Chapter 19: Climate Change [APP-061]**, the GHG intensity of the ammonia is not therefore included in the GHG assessment. IEMA guidance requires that a GHG assessment sets out a baseline reference point or 'business as usual' case for the comparison of the

	impact of the new project. The upstream production facilities for green ammonia are independent of the Project, and therefore any upstream emissions would form part of the baseline and comparison case meaning that they do not need to be considered. It is not therefore necessary or appropriate to include the upstream emissions in the ES. To do so would be to go beyond the proper purpose of EIA and to include information that is not reasonably required to understand the likely significant effects of the Project. It follows that the absence of an assessment of such emissions in the ES could not properly be treated as a "limitation" of the assessment for the purposes of the EIA Regulations. Such emissions are neither direct nor indirect effects of the Project. b) For the purposes of the Project's hydrogen production facility, there are two key standards that customers will expect the output hydrogen to be in compliance with: the Renewable Transport Fuel Obligation[1] and the Low Carbon Hydrogen Standard[2]. The Renewable Transport Fuel Obligation sets a requirement that any renewable fuels for the purposes of that Obligation must deliver a carbon saving of 65% against fossil fuels, equivalent to a maximum carbon intensity of 32.9gCO_2e/MJ. The Low Carbon Hydrogen Standard is described in response to Q1.3.3.4. The Low Carbon Hydrogen Standard sets a maximum carbon intensity of 20gCO_2 e/MJ. It is a key component of the economic feasibility of the hydrogen production facility that the output hydrogen aligns with both of these standards in order to meet customer demands. The reporting boundary for both standards would require inclusion of upstream emissions from producing ammonia. There will be regular third-party auditing of the hydrogen products to ensure compliance with these

	standards in line with auditing required by the standards, which will include auditing of the carbon intensity of upstream ammonia[1,2]. Accordingly, in order to market low carbon hydrogen in Immingham, the operator of the hydrogen production facility will need to be able to demonstrate the low carbon credentials of the imported ammonia. **References:** [1] Department for Transport (2024).Renewable Transport Fuel Obligation: Third-Party Assurance Guidance. [Online] https://assets.publishing.service.gov.uk/media/65a810e4b2f3c6000de5d4cd/rtfo-third-party-assurance-guidance.pdf (accessed February 2024). [2] Department for Energy Security and Net Zero (2023). UK Low Carbon Hydrogen Certification Scheme. [Online] https://www.gov.uk/government/consultations/uk-low-carbon-hydrogen-certification-scheme (accessed February 2024).
Q1.3.2.6	
Question	**Response**
Certainty of Carbon Dioxide Imports The ES [APP-061, Paragraph 19.4.51(d)] establishes assumptions relating to ship sizes, imported cargo and origins but there is lack of certainty about the extent to which carbon dioxide imports would be realised. For example, the ES [APP-061, Paragraph 19.8.15] makes clear that the potential benefits of carbon dioxide imports cannot be quantified, and it is noted that additional carbon dioxide infrastructure would	a) There is no requirement for the worst-case scenario presented in **Environmental Statement ("ES") Chapter 19: Climate Change [APP-061]** to account for the potential for other liquid bulk cargos being imported from further afield than 500 nautical miles. IEMA guidance, applied for the GHG assessment, specifies that an EIA of GHG emissions should look to define a 'reasonable worst case'[1]. The Project will only have landside capacity to handle ammonia imports, so

need to come forward under other consents before the potential benefits could be realised [APP-045, Paragraph 3.4.11]. a) Therefore, should the worst case scenario account for the potential of other liquid bulk cargos being imported from further afield than 500 nautical miles? b) What effect would this have on the reliability of the GHG assessment and would the dDCO need to include limitations in this context?	any other liquid bulk cargo imports would require additional landside infrastructure which would be subject to a separate consenting process. For these reasons, domestic imports of CO_2 from an average distance of 500 nautical miles is considered to be a reasonable worst-case scenario for the assessment. Furthermore, the Climate Change Committee states that Carbon Capture, Usage and Storage ("CCUS") "is a necessity not an option" for the UK to achieve net zero by 2050[2]. The UK Government has published its vision for CCUS that includes explicit reference to the need for multiple forms of non-pipeline CO_2 transport, including rail, shipping and road[3], highlighting that half of industrial emissions are outside of the main industrial clusters which will connect to Carbon Capture and Storage ("CCS") through pipeline networks. This highlights the ongoing need and commitment of UK policy to developing non-pipeline transport options for CCS, with financing and a non-pipeline transport strategy in development[4]. These are required to meet the UK's binding net zero targets and carbon budget commitments[5]. The Project responds to a wider UK strategy on CCS by facilitating the potential for connection to storage facilities through the Viking Carbon Capture pipeline, subject to a separate consenting process (PINS reference: [EN070008]). The potential cumulative impact of Viking infrastructure required to enable the CO_2 storage has been considered. Viking would have construction emissions of 84,279tCO_2e and operational emissions of 2,514tCO_2e over the 25-year operating period as set out in **Tables 15-16** and **15-28** of **ES Chapter 15: Climate Change for the Viking CCS pipeline**[6]. This would not affect the significant beneficial conclusion of the climate change assessment of **ES [APP-061]**. b)

	As a result of the explanation presented in part a) above, the Applicant considers that the GHG assessment presented in the ES is therefore a reliable reasonable worst case. As such there is no requirement for limitations on the shipping of other liquid bulk cargos being imported from further afield than 500 nautical miles to be included in the **draft Development Consent Order ("dDCO") [PDA-004]**. The Applicant does not believe it is necessary for the DCO to include any limitations around liquid bulk cargo type as the landside facilities are only capable of handling ammonia, with further CO_2 infrastructure to be provided separately, and any other liquid bulk cargos would require landside infrastructure which would be subject to a separate consenting process. **References:** [1] IEMA (2022). Launch of the Updated EIA Guidance on Assessing GHG Emissions - February 2022. [Online] https://www.iema.net/resources/blog/2022/02/28/launch-of-the-updated-eia-guidance-on-assessing-ghg-emissions (accessed February 2024). [2] Committee on Climate Change (2019). Net Zero – The UK's contribution to stopping global warming. [Online] https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/ (accessed February 2024). [3] Department for Energy Security and Net Zero (2023). Carbon Capture, Usage and Storage – A Vision to Establish a Competitive Market. [Online] https://assets.publishing.service.gov.uk/media/6594718a579941000d35a7bf/carbon-capture-usage-and-storage-vision-to-establish-a-competitive-market.pdf (accessed February 2024).

	[4] Department for Energy Security and Net Zero (2023). CCUS Net Zero investment roadmap: Capturing carbon and a global opportunity. [Online] https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-net-zero-investment-roadmap/ccus-net-zero-investment-roadmap-capturing-carbon-and-a-global-opportunity (accessed February 2024). [5] HM Government (2023). Carbon Budget Delivery Plan. [Online] https://assets.publishing.service.gov.uk/media/6424b2d760a35e000c0cb135/carbon-budget-delivery-plan.pdf (accessed February 2024). [6] Chrysaor Production (U.K.) Limited (2023). Viking CCS Pipeline Environmental Statement Volume II - Chapter 15: Climate Change (Document Reference: EN070008/APP/6.2.15). [Online] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN070008/EN070008-000233-EN070008_Viking_CCS_Pipeline_6.2.15_Env_Statement%20Vol%20II_Chapter%2015_V1.pdf (accessed February 2024).
Q1.3.2.7	
Question	**Response**
Future of Low Carbon Imports a) Is it possible that low carbon imports might fall away due to changes in market demand? b) Could the Proposed Development potentially shift to high carbon imports and would this have implications for the GHG assessment in the ES [APP-061]? For example, the Applicant suggests that low carbon ammonia imports would offset GHG	a) It is not considered to be a reasonable worst-case (or indeed likely) scenario that low carbon imports would fall away due to changes in market demand. In order to meet the UK's legally binding target to achieve net zero by 2050, the Government must drive progress in decarbonisation, particularly of industry, including the heavy transport sector. There is clear national policy in place to achieve this.

emissions as a result of facilitating the production and use of low carbon hydrogen. Furthermore, that carbon dioxide imports would offset GHG emissions as a result of CCS. c) However, is it possible that the Proposed Development could import liquid bulk cargos, where the downstream effects of which might increase GHG emissions rather than offset them, and should such a scenario be accounted for in the GHG assessment?	In terms of hydrogen, a key plank of the Government's plan is to develop a thriving low carbon hydrogen sector in the UK – it identifies low carbon hydrogen as having a critical role to play in the transition and is pursuing a number of strategies and developing policies and business models to achieve this.[1,2,3] Once customers have transitioned to hydrogen (for example through significant investment in hydrogen fuelled vehicles and plant), those customers cannot simply transition back, due to the net zero transition requirements and the financial investment involved. Accordingly, they will continue to require reliable sources of hydrogen. It is for these reasons that Air Products is making a substantial investment in the hydrogen production facility at Immingham and other locations in Europe (together with upstream facilities). There is also a clear policy commitment to scaling up Carbon Capture and Storage[4]. Therefore, the achievement of the Government's clear legal and policy commitments to net zero require there to be strong and consistent market demand for low carbon imports in the future. In contrast, a change in market demand resulting in low carbon imports falling away could only realistically arise in circumstances where there had been a failure by Government to maintain its current policy of seeking to meet the legally binding net zero target. Such a hypothetical set of circumstances would be inconsistent with clear and consistent Government policy and would not therefore provide the basis for a reasonable worst-case scenario. b) and c)

	As explained above, it is not considered a reasonable worst-case (or indeed realistic) scenario that low carbon imports would fall away due to changes in market demand. In the context of the hydrogen, the economics of the hydrogen production facility rely on the demand for reliable supplies of low carbon and renewable hydrogen (as opposed to hydrogen produced for example from non-renewable ammonia). As detailed in the response to Q1.3.2.6, the Project is designed to receive carbon dioxide or ammonia imports, and, as detailed in other responses, the import of any other liquid bulk products would require landside infrastructure which would be subject to separate planning and associated consents and assessment. A scenario of accounting for other liquid bulk cargos including high carbon imports is not, therefore, considered to be necessary. **References:** [1] UK Hydrogen Strategy (publishing.service.gov.uk) [2] Hydrogen Strategy Delivery Update: Hydrogen Strategy Update to the Market: December 2023 (publishing.service.gov.uk) [3] Hydrogen in a low-carbon economy – Climate Change Committee (theccc.org.uk) [4] Carbon Capture, Usage and Storage (publishing.service.gov.uk)
Q1.3.2.8	
Question	**Response**

Temporal Scope of the Assessment The ES [APP-061, Paragraph 19.8.10] talks about operational GHG emissions over the Proposed Development's lifetime. a) Explain why the GHG assessment is limited to a 25 year period when the jetty would remain in perpetuity and be capable of facilitating ship movements, including import and export of cargo, in perpetuity. b) Does the GHG assessment need to differentiate between the GHG emissions associated with the permanent use of the jetty and the temporary (albeit long term) use of the ammonia storage and hydrogen production facilities?	The 25-year period was selected as this is the reasonable worst case assessment for this particular aspect of the environmental impact assessment as some of the major items of equipment and plant have a nominal design life of around 25 years, at which point these items of equipment and plant may need refurbishing or replacing (see the response to Q1.15.1.5). However, the operational life could be (and is likely to be) extended with plant replacement and refurbishment. Whilst the jetty would continue receiving ship movements well beyond 25 years, a 25-year period of operation of the hydrogen production facility combined with the construction period of 11 years for all phases would take the Project past the 2050 goal for UK to achieve net zero. For this reason, extending the assessment of shipping, which is now part of the UK's carbon budgets from the sixth carbon budget onwards[1], is not considered necessary. The 25-year time period is considered to be a realistic time period to assess the Project against the UK's net zero trajectory, which is the key consideration for significance in IEMA methodology[2]. IEMA's guidance on assessing significance states 'The crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050'. Combined with the uncertainty around technologies (energy, transport, replacement and maintenance of infrastructure) that will be in use beyond the 25-year period, it is not considered realistic or helpful to assess the longer term emissions of the jetty beyond the 25-year period selected in the assessment. **References:** [1] Department for Business, Energy and Industrial Strategy (2021). UK enshrines new target in law to slash emissions by 78% by 2035. [Online]

	https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035 (accessed February 2024). [2] IEMA (2022). Launch of the Updated EIA Guidance on Assessing GHG Emissions - February 2022. [Online] https://www.iema.net/resources/blog/2022/02/28/launch-of-the-updated-eia-guidance-on-assessing-ghg-emissions (accessed February 2024).
Q1.3.2.9	
Question	**Response**
Shipping Emission Trajectories The ES [APP-061, Paragraph 19.8.13] states that shipping emissions used in the GHG assessment have been reduced in line with committed trajectories. Is it a reasonable worst case scenario that these committed trajectories could be missed? It would be helpful to understand the implications for the GHG assessment if this were to be the case.	It is an assumption of the GHG assessment that the UK will achieve its net zero goals since these are legally binding targets and policies are in place to achieve them. It is worth noting that shipping emissions will be part of the UK's sixth carbon budget and net zero goals[1]. This means that emissions from domestic and international shipping will be controlled and mitigated through UK policy in order to ensure alignment with net zero. In order to understand the implications of decarbonisation targets being missed, an assumption was made that no decarbonisation is achieved in shipping at all throughout the life cycle of the Project and it continues to be fossil-fuel driven. In this analysis, the net emissions savings would be reduced from 704,633tCO_2e to 543,542tCO_2e, showing that the significant beneficial conclusion of the assessment would remain with or without decarbonisation of shipping due to the benefits of the low carbon hydrogen. **References:**

	[1] Department for Business, Energy and Industrial Strategy (2021). UK enshrines new target in law to slash emissions by 78% by 2035. [Online] https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035 (accessed February 2024).
Q1.3.2.10	
Question	**Response**
Forthcoming Carbon Budgets The ES [APP-061, Paragraph 19.8.19 and Table 19-21] sets out carbon budget trajectories. a) Is the Applicant able to provide more information about how and when the seventh, eighth and ninth carbon budgets might come into legal force? b) Furthermore, is it possible that these carbon budget forecasts could change and become more or less restrictive?	a) Parliament passed the Climate Change Act 2008 ('the Act'), legislating the UK's framework for setting carbon budgets. Under the Act, the UK is legally required to reduce greenhouse gas emissions by at least 100 per cent by 2050 on 1990 levels. As set out in the Carbon Budget Delivery Plan[1]: "*To keep the UK on a pathway to achieving the 2050 target, the government is required to set legally binding, five-year caps on emissions – carbon budgets – twelve years in advance and then to publish a report setting out proposals and policies for meeting that budget and those budgets previously set*". Accordingly, the carbon budgets will be set 12 years in advance. The sixth carbon budget was set in 2021, so the seventh, eight and ninth budgets would likely come into legal force in 2026, 2031 and 2036. b) It is possible that the carbon budgets will change, as progress against existing and future budgets is continually measured in the Carbon Budget Delivery Plan and review of Annual Statements of Emissions[2] and Progress Reports from the Climate Change Committee[3]. The indicative seventh, eighth and ninth budgets used in the assessment are the best estimate currently available for the assessment of the Project.

	References: [1] HM Government (2023). Carbon Budget Delivery Plan. [Online] https://assets.publishing.service.gov.uk/media/6424b2d760a35e000c0cb135/carbon-budget-delivery-plan.pdf (accessed February 2024). [2] Department for Energy Security and Net Zero (2023). Annual statements of emissions. [Online]. https://www.gov.uk/government/collections/annual-statements-of-emissions (accessed February 2024). [3] Climate Change Committee (2023). 2023 Progress Report to Parliament. [Online]. https://www.theccc.org.uk/publication/2023-progress-report-to-parliament/ (accessed February 2024).
Q1.3.2.11	
Question	**Response**
Carbon Budget Register a) Is there a register for carbon budget commitments? b) How is it possible to know how much of the carbon budget remains in any given period, and therefore how significant any given development is in cumulative terms?	a) and b) There is no live register for tracking carbon budget commitments through a cumulative assessment of projects. There are a series of legislative mechanisms for managing, tracking and achieving the carbon budgets that have been agreed. An Annual Statement of Emissions is calculated each year by the Department for Energy Security and Net Zero[1]. The Climate Change Act 2008 sets out in section 36 that the Climate Change Committee (then known as the Committee on Climate Change) must deliver a report setting out its the views on: • The progress that has been made towards meeting the carbon budgets that have been set under Part 1 and the target in section 1 (the target for 2050) of the Climate Change Act 2008

	• The further progress that is needed to meet those budgets and that target • Whether those budgets and that target are likely to be met The latest report sets out the progress by different sectors and different policies and gaps needed to align with the agreed carbon budgets[2]. The UK government must also set out a Carbon Budget Delivery Plan in line with section 14 of the Climate Change Act 2008, setting out the policies and proposals to meet carbon budgets for current and future periods. These mechanisms are the key elements of policy for measuring and tracking progress against carbon budgets[3]. In line with IEMA guidance he significance of a development's impact on the climate as a result of GHG emissions over its lifetime is determined by considering its alignment with these policies and carbon budgets. **References:** [1] Department for Energy Security and Net Zero (2023). Annual statements of emissions. [Online]. https://www.gov.uk/government/collections/annual-statements-of-emissions (accessed February 2024). [2] Climate Change Committee (2023). 2023 Progress Report to Parliament. [Online]. https://www.theccc.org.uk/publication/2023-progress-report-to-parliament/ (accessed February 2024). [3] HM Government (2023). Carbon Budget Delivery Plan. [Online] https://www.gov.uk/government/publications/carbon-budget-delivery-plan (accessed February 2024).
Q1.3.2.12	
Question	**Response**

Quantifying Carbon Dioxide Import and Storage Benefits Why is the ES [APP-061] GHG assessment able to quantify the benefits of ammonia imports and associated hydrogen production but not able to quantify the benefits of carbon dioxide imports and associated CCS?	As detailed in the response to Q1.3.2.6, Carbon Capture & Storage (CCS) is a key part of UK government commitments and strategy for achieving net zero. The carbon dioxide imports and associated CCS are considered in **Paragraphs 19.8.22 and 19.8.25** of **Environmental Statement ("ES") Chapter 19: Climate Change [APP-061]** when concluding that there is a significant beneficial effect of the Project and that it aligns with the UK's targets on net zero as set out in the response to Q1.3.2.6. **Paragraph 19.8.25** of **ES Chapter 19** states that the remaining port capacity (once the ammonia import for hydrogen production is accounted for) is approximately 9.8 million tonnes a year, which indicates the scale of the potential benefits of the CO_2 storage if the port was operating at maximum capacity. For the benefits of the CO_2 storage to be 9.8 million tonnes a year the port would need to be operating annually at maximum capacity. As this is not considered to be a likely scenario it is anticipated that the likely benefits would be smaller. Quantifying the benefits of CO_2 storage, based on a reduced rate of shipping is therefore considered to be a reasonable worst-case scenario. The approach taken in the ES was to consider the maximum disbenefits of shipping and to only qualitatively consider the benefits that this enables as described above as the benefits are uncertain and to be achieved, would depend on additional future consents for landside facilities. This is in line with the approach taken in **Paragraph 15.9.7** of **ES Chapter 15: Climate Change for the Viking CCS pipeline**[3]. To be conservative in the assessment, the shipping emissions are accounted for but the benefits of storage are not included. These have still been considered when concluding that the Project has a significant beneficial effect and contributes to the UK achieving its net zero targets.

	References: [1] Committee on Climate Change (2019). Net Zero – The UK's contribution to stopping global warming. [Online] https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/ (accessed February 2024). [2] Department for Energy Security and Net Zero (2023). Carbon Capture, Usage and Storage – A Vision to Establish a Competitive Market. [Online] https://assets.publishing.service.gov.uk/media/6594718a579941000d35a7bf/carbon-capture-usage-and-storage-vision-to-establish-a-competitive-market.pdf (February 2024). [3] Chrysaor Production (U.K.) Limited (2023). Viking CCS Pipeline Environmental Statement Volume II - Chapter 15: Climate Change (Document Reference: EN070008/APP/6.2.15). [Online] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN070008/EN070008-000233-EN070008_Viking_CCS_Pipeline_6.2.15_Env_Statement%20Vol%20II_Chapter%2015_V1.pdf (accessed February 2024).
Q1.3.2.13	
Question	**Response**

Use of Renewable Energy Sources Paragraphs 4.12.7 and 4.12.8 of the NPSfP sets out that new developments should be designed with a view to fuel efficiency in the operation of buildings and maximise renewable energy sources, and where renewable energy is not planned to be used for a major port development, the reasons should be scrutinised. Explain your approach to the use of renewables in meeting the energy demands of the Proposed Development.	Within the Hydrogen Production Facility, the following energy sources will be used: • Electricity – used to power all equipment and buildings • Natural Gas – used to heat the furnace in the hydrogen production unit. **Electrical power consumption** Electricity is anticipated to be supplied to the hydrogen production facility through a Power Purchase Agreement (PPA) or direct supply from a renewable energy generator. The proportion of power purchased this way is not yet confirmed but it will be sufficient to ensure that the overall carbon intensity of the green hydrogen produced meets the threshold values set by the Renewable Transport Fuels Obligation Order and the Low Carbon Hydrogen Standard as explained in response to question Q1.3.2.5. **Natural Gas consumption** Natural gas is used in the hydrogen production unit to heat the furnace in which ammonia is split into hydrogen and nitrogen. As outlined in response to question Q1.3.2.14, there are opportunities in the future to use renewable energy in this process: • Use of biogas ○ Air Products is evaluating options for a source of biogas which is subject to market availability. • Use of hydrogen

	○ Use of renewable hydrogen as a furnace firing gas, either partially or wholly, will require technological development and may be introduced in the future. • Use of an electric furnace. ○ Electric furnaces may be developed in the future but this technology is not currently available. Whilst Paragraph 4.12.7 of the National Policy Statement for Ports sets out that new developments should be designed with a view to fuel efficiency in the operation of buildings and outdoor plant and machinery as well as with the maximum use of renewable energy sources, Paragraph 4.12.8 requires the decision-maker to consider the extent to which the applicant has considered the use of renewable energy on the port estate - and, where renewable energy is not planned to be used for a major port development, to scrutinise the reasons. This policy – which applies to all port development – therefore recognises that there may be reasons why it is not appropriate for some developments to use renewable power for all aspects of planned operations. In that context, the hydrogen production facility currently requires the use of natural gas because of the nature of the process (and given the current status of alternatives as explained above). The hydrogen production facility is, however, unusual. As explained further in the response to Q1.3.3.4, to meet customer requirements, the green hydrogen produced by the facility must meet the threshold carbon intensity (CI) values set by the Renewable Transport Fuel Obligation and the Low Carbon Hydrogen Standard and to do this also requires use of renewable energy sources. This specific separate system of legislation and standards can be relied on to incentivise the use of renewable energy sources as and when it becomes reasonable to expect it.

Q1.3.2.14

Question	Response
Ongoing Carbon Intensity Reductions a) Explain commitments to reduce carbon intensity within supply chain processes. b) Quantify potential future reductions and explain how these would be secured.	a) The potential opportunities for (rather than commitments to) future reductions in carbon intensity ("CI") are identified in **Table 1**. **Table 1: Steps of the hydrogen production process & their contribution to carbon intensity**

	Process Step	Current CI contribution of step	Design elements already included	Opportunities for future CI improvement	Responsibility / Power to implement improvement
Middle East	Hydrogen Production	3%	Ability to accommodate variations in renewable power production to eliminate need for grid power		
	Nitrogen and ammonia production/ storage	9%		CI reduction of local grid	Others (beyond the control of the purchaser of ammonia)

	International	Shipping	14%	Use of very large ships. Optimised ship delivery/itinerary management	Selection of ships with lowest CI	Air Products
					Development of ammonia fuelled marine engines	Engine manufacturers
					Electrical shore power for ships whilst at berth (to avoid running ships engines)	ABP/Ship owners
	Immingham	Offload and storage	4%	Insulation of tank and pipelines Design of vapour recovery system to manage varying demand	CI reduction of local grid network	Others
					Level of renewable power purchased through power purchase agreement (PPA)	Air Products
		Hydrogen Production Unit	37%	Heat integration of process units (e.g. flue gas heat recovery)	Use of hydrogen as part of firing gas for furnace	Air Products
					Use of renewable gas source	Air Products
					Development of electric furnace	Others

	Hydrogen Liquefier, storage and tanker loading	15%	Mechanical integration to use expansion process to drive compression process	CI reduction of local grid network	Others
				Level of renewable power purchased through PPA	Air Products
UK	Road transport to Hydrogen Refuelling stations	7%		Use of hydrogen HGV	Air Products/ legislation
				Larger capacity tanker design	Air Products
	Hydrogen Refuelling stations	11%	Transport hydrogen in liquid form	CI reduction of local grid network	Others
				Renewable power purchased through PPA	Air Products/HRS operator

The market for low carbon hydrogen is driven by legislation, specifically the Renewable Transport Fuels Obligation ("RTFO") and the Low Carbon Hydrogen Standard (as explained in the response to Q1.3.3.4). These set the CI thresholds for low carbon hydrogen. The market and government incentive schemes are based on the sale of low carbon hydrogen which meets these threshold values.

It is anticipated that over time these threshold CI levels will be reduced, by changes to the RTFO and Low Carbon Hydrogen standard, as the market and the technology develops. Air Products

	therefore anticipate having to implement CI improvements in order to meet anticipated future changes in the threshold values. Air Products' commitments to further reduce carbon intensity within supply chain processes will therefore be driven by and respond to the need to comply with relevant low carbon hydrogen standards. b) It is not possible at this stage to quantify potential future CI improvements in part as this is often based on future technology advances. Each step of the process will always retain some level of carbon intensity. As noted above, future CI improvements will be secured through revisions to the relevant legislation and standards and the threshold CI levels that they secure. The thresholds effectively set a level playing field for the emerging low carbon hydrogen market. Within that framework, the opportunities for further CI improvement will be considered by Air Products as appropriate for example in anticipation of reductions in the threshold CI values set by Government, in order to improve the sustainability credentials of its products, to respond to customer demands or otherwise to respond to the market as it matures, but always ensuring that the product remains economic. To include timescales and / or obligations for CI improvements in the DCO would serve to duplicate the mechanisms secured through the above legislation and standards at a national level and to distort the market as they would not be applied universally to

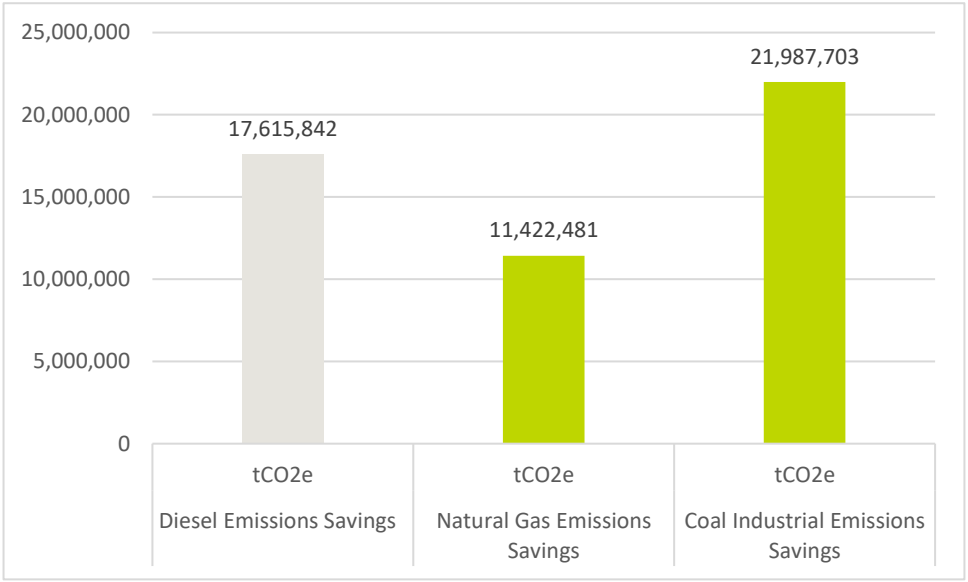
	other low carbon hydrogen projects under separate planning applications.
Q1.3.3 Hydrogen within the Supply Chain	
Q1.3.3.1	
Question	**Response**
Offsetting GHG Emissions The ES [APP-061, Table 19-3] cites primary emission sources that would be avoided or displaced through use of renewable energy systems, including hydrogen use in displacing other fuels, or offsetting. a) Is the hydrogen subject to a low carbon certification scheme? b) If not, is it reasonable to introduce a requirement into the dDCO securing compliance with a low carbon hydrogen certification scheme to create certainty about the green credentials of the Proposed Development?	a) It is anticipated that customers will require low carbon hydrogen that is certified against one of two key standards, either the Low Carbon Hydrogen Standard[1] or the Renewable Transport Fuel Obligation[2] (the production of low carbon hydrogen would not be a mandatory requirement imposed by legislation for example). Further information on the Low Carbon Hydrogen Standard i and the Renewable Transport Fuel Obligation is provided in response to Q1.3.3.4. Response to Q1.3.3.2 addresses Low Carbon Hydrogen certification scheme (to be based on the Low Carbon Hydrogen standard). b) The Applicant does not consider it reasonable or appropriate to introduce a requirement into the **draft Development Consent Order ("dDCO") [PDA-004]** securing compliance with a low carbon hydrogen certification scheme. Advice Note Fifteen[3] states that (in line with the law and policy relating to planning conditions imposed on planning permissions under the Town and Country Planning Act 1990) requirements should be precise, enforceable,

	necessary, relevant to the development, relevant to planning and reasonable in all other respects. In order to transition to hydrogen, customers need to have the confidence that there will be a regular supply of hydrogen. The transition requires significant investment, for example, in hydrogen fuelled vehicles or plant. Once customers have made that investment, they cannot simply use other types of fuels. Their operations rely on hydrogen being available as and when required to meet their needs. As a result, Air Products needs to maintain (and demonstrate to customers that it can maintain) a reliable source of hydrogen. The RTFO has been in place to encourage the supply and use of renewable fuels (which include hydrogen) for transport since 2008. This obligates suppliers of certain fuels (including petrol and diesel) to supply a minimum percentage of renewable fuels. On sale of the renewable fuels, the supplier qualifies for Renewable Transport Fuel Certificates ("RTFCs"). If, at the end of each accounting year, the supplier has not sold the required percentage of renewable fuels, it can either "buy-out" its obligation or buy RTFCs on the market. RTFCs are available on the market from suppliers who have qualified for more RTFC than they need or from suppliers of renewable fuels. Air Products is not an obligated party under the RTFO as it does not supply diesel and petrol. In supplying hydrogen, it qualifies for the RTFC. Further explanation is given in response to Q1.3.3.4. The Government is introducing new incentives to help fund the transition of other industries to low carbon hydrogen. These include support through the Hydrogen Production Business Model ("HPBM") and the Net Zero Hydrogen Fund ("NZHF")[4]. The HPBM provides a contractual incentivisation for production of low carbon hydrogen through ongoing revenue support, while the NZHF provides upfront funding for building of

	low carbon hydrogen projects. Both require alignment with the Low Carbon Hydrogen Standard. Air Products anticipates entering into contracts with most of its customers requiring the supply to the customer of low carbon or renewable fuel. In doing so, Air Products anticipates qualifying for RTFCs or equivalent measures under alternative incentive schemes which it will be able to trade on the market, as explained above. If Air Products fails to deliver the required low carbon fuel, then it will not be able to sell RTFCs and will lose an income stream. There may also be penalties under the contract as a result of the customer not receiving the fuel contracted for. The underlying economics therefore provide a powerful natural incentive for Air Products to meet the requirements of the RTFO and the Low Carbon Hydrogen standards, such that a requirement in the **dDCO [PDA-004]** is not necessary. Further, any such requirement in practice would not be enforceable. As acknowledged by Advice Note Fifteen, it is usually the relevant planning authority who would be responsible for enforcing compliance with requirements. In order for North East Lincolnshire Council ("NELC") to monitor compliance, it would need to receive some form of report on the nature of the imports to the hydrogen production facility. NELC, as a local planning authority, has no expertise in compliance with low carbon hydrogen standards and this would be an unnecessary bureaucratic burden upon it. Compliance with the above standards and their administration is audited by appointed third parties in accordance with the terms of the relevant Government incentivisation schemes. It would not be appropriate, however, for such parties to be responsible for enforcing a requirement on a DCO. **References:**

	[1] Department for Energy Security and Net Zero (2023). UK Low Carbon Hydrogen Standard. [Online] https://assets.publishing.service.gov.uk/media/6584407fed3c3400133bfd47/uk-low-carbon-hydrogen-standard-v3-december-2023.pdf (accessed February 2024). [2] Department for Transport (2024).Renewable Transport Fuel Obligation: Third-Party Assurance Guidance. [Online] https://assets.publishing.service.gov.uk/media/65a810e4b2f3c6000de5d4cd/rtfo-third-party-assurance-guidance.pdf (accessed February 2024). [3] Planning Inspectorate (2018). Advice Note Fifteen: Drafting Development Consent Orders. [4] Department for Business, Energy and Industrial Strategy (2022). Hydrogen Business Model and Net Zero Hydrogen Fund: Electrolytic Allocation Round. [Online] https://assets.publishing.service.gov.uk/media/64076b0c8fa8f527fe30dc01/hbm-nzhf-electrolytic-round-application-guidance.pdf (accessed February 2024).
Q1.3.3.2	
Question	**Response**

UK Government Low Carbon Hydrogen Certification Can the Applicant provide information on the UK Government's commitment to launch a low carbon hydrogen certification scheme from 2025 to aid the decarbonisation of the UK economy and support the ambition to reach Net Zero by 2050?	The UK Government intends to launch a domestically focused low carbon hydrogen certification scheme from 2025[1]. This will be based upon demonstrating compliance with the Low Carbon Hydrogen Standard[2] which sets system boundaries and modelling assumptions for hydrogen production. Any producers supported through the Hydrogen Production Business Model or Net Zero Hydrogen Fund will be required to produce volumes of hydrogen that comply with this standard. **References:** [1] Department for Energy Security and Net Zero (2023). UK Low Carbon Hydrogen Certification Scheme. [Online] https://www.gov.uk/government/consultations/uk-low-carbon-hydrogen-certification-scheme (accessed February 2024). [2] Department for Energy Security and Net Zero (2023). UK Low Carbon Hydrogen Standard. [Online] https://www.gov.uk/government/publications/uk-low-carbon-hydrogen-standard-emissions-reporting-and-sustainability-criteria (accessed February 2024).
Q1.3.3.3	
Question	**Response**

HGV Diesel Displacement or Industrial Use The ES [APP-061, Paragraph 19.4.51(i)] talks about using hydrogen in the supply chain. Are the benefits of using hydrogen to decarbonise the transport sector comparable to the benefits of using hydrogen to decarbonise the industrial sector, or would the magnitude of benefits be different?	The exact benefits of the Project would be different depending on which sector the hydrogen is eventually used in. However, the overall conclusion of significant beneficial effect would remain the same. The scale of the benefit depends on the fuel that would be being displaced by use of hydrogen, with the most likely other options besides diesel for transport being natural gas or coal in industrial settings. The image below shows the net savings over 25 years, in line with the methodology set out in **Paragraph 19.8.11** of **Environmental Statement Chapter 19: Climate Change [APP-061]**, on an energy replacement basis. Of the different technologies displaced, the savings from diesel correlate to the core scenario and results given in **Table 19-20** of **ES Chapter 19**. 
Q1.3.3.4	

Question	Response
Types of Hydrogen Standards The ES [APP-061, Paragraph 19.8.14] talks about low carbon hydrogen and renewable transport fuel standards. a) Can the Applicant provide more detail on these standards and explain how the Proposed Development is in alignment with any established criteria? b) Can the Applicant also confirm whether there are any mechanisms within the dDCO to secure compliance with these standards?	a) The standards that the hydrogen would be measured against, namely the Low Carbon Hydrogen Standard[1] and Renewable Transport Fuel Obligation[2] are described below. There will be regular third-party auditing of the hydrogen product to ensure compliance with these standards (in line with the auditing required through the associated standards). The greenhouse gas assessment in **Chapter 19: Climate Change** of the **Environmental Statement [APP-061]** has confirmed that the hydrogen to be produced by the hydrogen production facility is anticipated to be in line with the established criteria of both standards. This would be subject to auditing to ensure compliance as detailed in chapter 8 of the Low Carbon Hydrogen Standard. **The Renewable Transport Fuel Obligation Order** The RTFO Order commenced on 15 April 2008 and is one of the Government's main policies for reducing greenhouse gas emissions from transport. The RTFO delivers greenhouse gas emission savings by encouraging the supply of renewable fuels for use in UK transport. The RTFO requires the renewable fuels to have a carbon intensity of less than or equal to 32.9gCO2e/MJLHV to qualify for Renewable Transport Fuel Certificates (RTFCs). Under the RTFO, suppliers of relevant transport fuel (petrol, diesel, gas oil or renewable fuel) in the UK must meet an annual obligation using tradeable certificates which are awarded for the supply of sustainable renewable fuel. The RTFO is administered by a team within the

	Department for Transport (DfT) called the RTFO Unit, referred to below as the Administrator. Suppliers of transport fuel supplying petrol, diesel, gas oil or renewable fuel totalling 450,000 litres or more for use in a transport mode (as defined by the RTFO guidance) during an obligation period must register with the Administrator and may be subject to an obligation under the RTFO Order. Obligated suppliers may meet their obligation by redeeming Renewable Transport Fuel Certificates (RTFCs) or by paying a fixed sum for each litre of fuel for which they wish to 'buy-out' of their obligation. Certificates may be claimed for every litre (or equivalent) of sustainable renewable fuel supplied. Fuel from certain wastes or residues, fuel from dedicated energy crops, and Renewable Fuels of Non-Biological Origins (RFNBOs) are incentivised by awarding double the RTFCs per litre (or equivalent) supplied. Hydrogen is classed as an RNFBO. Data on the sustainability of fuel supplied must be independently verified before certificates will be awarded and the Administrator may require the evidence behind an application to be provided. A specific target for 'development fuels' was introduced on 1 January 2019. Fuels that meet the definition of 'development fuel' can count towards either the main obligation or the development fuel target and are awarded double 'development fuel' RTFCs. Hydrogen is currently classed as a 'developmental fuel'. Actions such as reporting fuel quantities, applying for RTFCs and redeeming RTFCs to meet the obligation are all undertaken through an IT

	system called the RTFO Operating System (ROS). The ROS system automatically calculates a supplier's obligation. The following types of organisations must register with the RTFO Administrator: 1. Any supplier that owns and supplies >450,000 litres (or equivalent) of fuel during an obligation year. These organisations may be subject to an obligation under the RTFO 2. Suppliers of < 450,000 litres (or equivalent) of renewable fuels who wish to apply for RTFCs. These organisations are not subject to an obligation under RTFO but may qualify for RTFC 3. Any companies wishing to act as RTFC traders Air Products falls under point 2 – it will not be subject to an RTFO obligation but will be able to qualify for RTFC by selling hydrogen. Air Products will therefore need to register for an account. One of the features of the ROS is the ability to sell RTFCs along the supply chain to an obligated party and Air Products will have the ability to generate revenue from the sale of RTFC. For fuels without a suitable duty point, such as Hydrogen, or where an alternative to the duty point is specified in the RTFO Order, the RTFO Unit Administrator (Administrator) is not able to validate quantities with Her Majesty's Revenue and Customs (HMRC) in the same way as for fuels with a duty point. An Administrator therefore has powers to validate this data, or to request independent verification. In order to receive RTFCs the supplier needs to provide the Administrator with assurance that the scheme has been complied with. This is achieved through an independent verified scheme requiring the supplier to appoint

	a Verifier who will audit the supply chain against the defined stages of assurance. The Administrator provides a list of recognised Verifiers that the suppliers are encouraged to appoint from. The Verifier will check that the data submitted to the Administrator meets the requirements and the assurance work is to be executed in accordance with ISAE 3000, or an equivalent standard. The Administrator has defined several stages in the assurance process: 1. Planning and risk assessment 2. Design assurance strategy 3. Execution of testing 4. Conclusion and reporting Data submitted that is subject to verification includes all carbon and sustainability data, such as GHG intensity values upstream, and other relevant data on the providence of the supply such as country of origin or land use. The CI of the product will be separately verified at each stage of the supply chain such that verified CI values are transferred through the chain of custody along with the product. Many fuel suppliers use voluntary schemes to support the sustainability claims they make when applying for RTFC and a list of recognised voluntary schemes under the RTFO is published by DfT. Details of the scheme must also be submitted to the Verifier. Before documentation from a given voluntary scheme can be used in support of issuance of RTFCs, that voluntary scheme must first have been recognised by the RTFO for the aspects of the RTFO which it is being used to demonstrate compliance with. There is a recognition process defined by the Administrator within its guidance. Certification through a voluntary scheme

	provides strong evidence of compliance with the RTFO's carbon, sustainability and mass balance requirements. However, the Administrator is able to request further evidence from Suppliers on the occasion(s) they are not satisfied with the evidence that has been provided through a scheme. The Supplier is obligated to: • prepare and submit accurate data in their application for RTFCs • prepare and submit an annual report to the Administrator • ensure that there is evidence to support the information in their application for RTFCs and annual report • appoint an independent verifier who is competent to undertake assurance engagements under ISAE 3000 and has sufficient understanding of the sustainability issues relating to the data they will be reviewing • check that their verifier meets, and continues to meet, all of the requirements set out in ISAE 3000 and RTFO guidance documents **How does it work?** Simplified Example: **Petrol and Diesel fuel suppliers** • If Company Z (Co Z) is a large supplier of petrol and diesel, the RTFO will obligate it to supply a certain % of renewable fuel • When Co Z sells renewable fuels, it qualifies for certificates called RTFC (for each batch of product supplied) • At the end of the year, it redeems the RTFC – Co Z uploads the RTFC to its government RTFC account (cashes them in)

	• If Co Z has sold the required %, the RTFC account balances and it has met its obligation • If Co Z fails to sell the required % (let's say it doesn't sell any). It has 2 options: 1. Buy out its obligation at a fixed price set in the RTFO i.e. pays a penalty to the Government instead of supplying renewable fuels 2. Buy RTFC on the market and redeem those • The RTFC on the market will come from obligated suppliers of petrol and diesel who have sold more than their 20% obligation or qualified for more RTFC than they need **OR** those supplying renewable fuels only such as Air Products **Air Products** • Air Products does not supply petrol or diesel and so is not an obligated party under RTFO • But by supplying hydrogen, it qualifies for RTFC (for each batch of product) • Air Products can sell the RTFC to Co Z or on the market • Air Products therefore has two revenue streams: the sale of hydrogen and RTFC • If, at any point / for any batch of product, the hydrogen does not meet the carbon intensity threshold set by the RTFO, Air Products does not qualify for RTFC and so loses revenue. • The customer would be unaffected by this, because the agreed price for hydrogen is unchanged, but Air Products would suffer financially.

	It is in Air Products' commercial interest to ensure that the green hydrogen end product complies with the RTFO carbon intensity threshold values. **<u>Low Carbon Hydrogen Standards</u>** The UK Government released version 3 of the Low Carbon Hydrogen Standard (LCHS) in December 2023. It states: *"To support the implementation of the UK Hydrogen Strategy, Energy Security Strategy, and Powering Up Britain, the UK Low Carbon Hydrogen Standard ('the Standard') defines what constitutes 'low carbon hydrogen' up to the point of production. The intent of the Standard is to ensure UK hydrogen production contributes to our GHG emission reduction targets under the Climate Change Act. 1.2.* *As we look to grow the UK's nascent hydrogen economy, we must consider the range of methods that could be used to produce low carbon hydrogen. These could cover a wide variety of feedstocks, energy Inputs and technology processes, all with different GHG Emission Intensities and broader sustainability impacts."* Amongst other requirements, the LCHS requires the hydrogen to have a carbon intensity of less than or equal to 20gCO2e/MJLHV. The LCHS will apply to hydrogen production facilities supplying to the industrial market. At the time of writing the functionality of the LCHS is less defined than the RTFO, as it is a relatively new standard. It is expected that it will be administered in a similar fashion to the RTFO, offering similar incentives to the producer to enable hydrogen to be

	provided to the market at a competitive price point, thereby stimulating adoption of hydrogen by the market. It should be noted that the RTFCs and LCHS are incentives to different markets and therefore there is no opportunity for the benefits to be applied for against the same product. b) There are no mechanisms within the **draft Development Consent Order [PDA-004]** to secure compliance with these standards. As detailed in the response to Q1.3.3.1, the Applicant does not consider that a requirement to secure compliance with these standards would be necessary or reasonable. **References:** [1] Department for Energy Security and Net Zero (2023). UK Low Carbon Hydrogen Certification Standard V3. [Online] https://assets.publishing.service.gov.uk/media/6584407fed3c3400133bfd47/uk-low-carbon-hydrogen-standard-v3-december-2023.pdf (accessed February 2024). [2] Department for Transport (2024).Renewable Transport Fuel Obligation: Third-Party Assurance Guidance. [Online] https://assets.publishing.service.gov.uk/media/65a810e4b2f3c6000de5d4cd/rtfo-third-party-assurance-guidance.pdf (accessed February 2024).
Q1.3.3.5	
Question	**Response**

Ensuring UK Benefits The ES [APP-061, Paragraph 19.8.23] states the hydrogen from the project is for distribution and use in the UK and would contribute towards the UK achieving net zero emissions by 2050. a) What controls are in place to ensure UK distribution and use? Is there anything preventing 100% foreign export? b) If foreign exports happen, how would the subsequent shipping emissions and loss of benefits to the UK factor into the GHG assessment?	a) and b) Air Products is making the investment in the UK to service potential demand within the UK. This demand is expected to grow in line with the UK's commitment to net zero and its hydrogen strategy (amongst other things) which aims for a large scaling up of hydrogen capacity. The Project as applied for is not designed to export hydrogen by ship. Additional infrastructure would be required. In any event, the economics of doing so would likely be prohibitive. It is not cost-effective to ship hydrogen, because of its lower energy density by volume, and indeed this is the key reason it is shipped in the form of ammonia to produce hydrogen at a UK port, as used in this Project.

3 Appendices to the Applicant's Responses to the Examining Authority's First Round of Written Questions

Appendix 1 – (on the application of Finch) v Surrey CC [2022] EWCA Civ 187(331649923.1)

Neutral Citation Number: [2022] EWCA Civ 187

Case No: C1/2021/0261

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
(PLANNING COURT)
MR JUSTICE HOLGATE
[2020] EWHC 3566 (Admin)

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 17 February 2022

Before:

LORD JUSTICE LEWISON
SIR KEITH LINDBLOM
(SENIOR PRESIDENT OF TRIBUNALS)
and
LORD JUSTICE MOYLAN

- -

Between:

R. (on the application of SARAH FINCH on behalf of the WEALD ACTION GROUP)	**Appellant**
– and –	
(1) SURREY COUNTY COUNCIL **(2) HORSE HILL DEVELOPMENTS LTD.** **(3) SECRETARY OF STATE FOR LEVELLING UP, HOUSING AND COMMUNITIES**	**Respondents**
– and –	
FRIENDS OF THE EARTH LTD.	**Intervener**

- -
- -

Marc Willers Q.C. and **Estelle Dehon** (instructed by **Leigh Day**) for the **Appellant**
Harriet Townsend and **Alex Williams** (instructed by **Surrey County Council Legal Department**) for the **First Respondent**
David Elvin Q.C. and **Matthew Fraser** (instructed by **Hill Dickinson LLP**) for the **Second Respondent**

Richard Moules (instructed by the **Treasury Solicitor**) for the **Third Respondent**
Paul Brown Q.C. and Nina Pindham (instructed by **Friends of the Earth Ltd.**) for the **Intervener** by written submissions only

Hearing dates: 16 and 17 November 2021

- -

Approved Judgment

This judgment was handed down by the judge remotely by circulation to the parties' representatives by email and release to Bailii. The date and time for hand-down was deemed not before 4pm on 17 February 2022

The Senior President of Tribunals:

Introduction

1. The basic question in this case is whether, under Directive 2011/92 EU of the European Parliament and of the Council ("the EIA Directive") and the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ("the EIA regulations"), it was unlawful for a county council, as mineral planning authority, not to require the environmental impact assessment for a project of crude oil extraction for commercial purposes to include an assessment of the impacts of greenhouse gas emissions resulting from the eventual use of the refined products of that oil as fuel. In my view, applying legal principles that are already fully established, it is clear that the county council did not err in law.

2. With permission granted by Lewison L.J., the appellant, Sarah Finch, appeals against the order of Holgate J. dated 23 December 2020, dismissing her claim for judicial review of the planning permission granted by the first respondent, Surrey County Council, for the retention and extension of the Horse Hill Well Site, near Horley. Ms Finch brought the challenge on behalf of the Weald Action Group. The planning permission was granted on 27 September 2019. The applicant for planning permission was the second respondent, Horse Hill Developments Ltd. The third respondent, the Secretary of State for Levelling Up, Housing and Communities, opposes the appeal. The intervener, Friends of the Earth Ltd., has made written submissions in support of Ms Finch; it had the same opportunity in the court below.

3. The task of the court in a claim such as this is only to decide the issues of law. Those issues cannot extend into the realm of political judgment – which is the responsibility of the executive, not the courts – or into the domain of policy-making, or into the substantive merits of the decision under challenge. They can embrace matters of law. But they cannot call into question the decision-maker's exercise of evaluative judgment, except where the principles of public law allow. All this is well-established. And as this court has made clear several times, it applies no less to cases whose subject matter concerns greenhouse gas emissions and climate change than it does to all others (see, for example, *R. (on the application of Rights: Community: Action) v Secretary of State for Housing, Communities and Local Government* [2021] EWCA Civ 1954, at paragraph 52; *R. (on the application of Plan B Earth) v Secretary of State for Transport* [2020] EWCA Civ 214; [2020] PTSR 1446, at paragraph 2; and *R. (on the application of Packham) v Secretary of State for Transport* [2020] EWCA Civ 1004; [2021] Env. L.R. 10, in particular at paragraphs 48 and 87).

The issues in the appeal

4. The single ground of appeal raises four issues. First, was the judge wrong to hold that the "true legal test" of whether an impact constitutes an indirect likely significant effect of the development on the environment is whether it is "an effect of the development for which planning permission is sought"? Secondly, was he wrong to hold that the EIA regulations are not directed at environmental impacts which result

merely from the consumption, or use, of an "end product" – for example, a manufactured article or a commodity such as oil, gas or electricity? Thirdly, was he wrong to hold that the EIA Directive and the EIA regulations did not require the assessment of "scope 3" or "downstream" greenhouse gas emissions arising from the combustion of the refined products of the oil which would be extracted by the development? And fourthly, was he wrong to hold that the county council's reasons for not requiring an assessment of those greenhouse gas emissions were lawful?

The legislative regime under the EIA Directive and the EIA regulations

5. In April 2014, amendments to the EIA Directive were made by Directive 2014/52/EU. Recital (13) of Directive 2014/52/EU stated that "it is appropriate to assess the impact of projects on climate (for example greenhouse gas emissions) …". The EIA Directive was amended accordingly.

6. Recital (2) of the EIA Directive refers to the "precautionary principle". Recital (7) says that "[development] consent for public and private projects which are likely to have significant effects on the environment should be granted only after an assessment of the likely significant environmental effects of those projects has been carried out".

7. Article 1(1) states that the EIA Directive "shall apply to the assessment of the environmental effects of those public and private projects which are likely to have significant effects on the environment". Article 1(2)(a) defines a "project" as meaning "the execution of construction works or of other installations or schemes" and "other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources". Article 2(1) requires member states to "adopt all measures necessary to ensure that, before development consent is given, projects likely to have significant effects on the environment … are made subject to … an assessment with regard to their effects on the environment".

8. Article 3(1) states:

> "1. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect significant effects of a project on the following factors:
> …".

Five factors are identified, including "(c) land, soil, water, air and climate".

9. Article 4(1) requires, subject to article 2(4), that projects listed in Annex I be made the subject of assessment in accordance with articles 5 to 10. Paragraph 14 of Annex I defines, as one of those types of project, the "extraction of petroleum and natural gas for commercial purposes where the amount extracted exceeds 500 tonnes/day in the case of petroleum and 500,000 cubic metres/day in the case of gas".

10. Article 5(1) states:

> "1. Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:
> …
>
> (b) a description of the likely significant effects of the project on the environment;
>
> (c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
> …".

Under article 5(1)(f) the developer is also required to provide the information specified in Annex IV, which includes an estimate of emissions which will be produced during the construction and operation phases (paragraph 1(d)) and a "description of the likely significant effects of the project on the environment" resulting from "the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions)" (paragraph 5(f)). Paragraph 5 requires the description to cover, among other things, the direct effects and any indirect effects "of the project".

11. The EIA Directive was lawfully transposed into domestic law by the EIA regulations. Regulation 3 prohibits the granting of planning permission for "EIA development" unless an environmental impact assessment has been carried out for it. Under the EIA regulations, the process for environmental impact assessment includes the preparation of an "environmental statement" by the applicant for planning permission and the "reasoned conclusion [of the relevant planning authority] on the significant effects of the proposed development on the environment …". The authority must "integrate" that conclusion into its decision whether to grant planning permission (regulations 4 and 26). Paragraph 14 of Schedule 1 replicates paragraph 14 of Annex I to the EIA Directive in identifying the "[extraction] of petroleum and natural gas for commercial purposes" above specified amounts as EIA development.

12. Regulation 4(2) provides:

> "(2) The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors –
> … ;
>
> (c) land, soil, water, air and climate;
> …".

13. By regulation 18(3), the environmental statement must contain, among other things, "(b) a description of the likely significant effects of the proposed development on the environment", "(c) a description of the likely significant effects of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment", and "(f)

additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected".

14. Paragraph 1 of Schedule 4 requires the environmental statement to provide "(d) an estimate, by type and quantity, of expected residues and emissions …" of the development. Under paragraph 4(1) it must describe "the factors specified in regulation 4(2) likely to be significantly affected by the development", which include "(c) climate (for example greenhouse gas emissions)". Paragraph 5 requires "[a] description of the likely significant effects of the development on the environment resulting from", among other things, "(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change". It also states that "[the] description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development …".

15. Both in decisions of the Court of Justice of the European Union ("the CJEU") and in those of the domestic courts there is ample authority on the legislation governing environmental impact assessment. The relevant principles are familiar and not controversial. I shall mention only those bearing on the issues we have to decide. There are seven:

    (1) While a broad and purposive approach to the interpretation of the European Union legislation is appropriate, it must always respect the words actually used (see, for example, the judgment of the CJEU in *Brussels Hoofdstedelijk Gewest v Vlaams Gewest (The Brussels Airport Co. NV intervening)* (Case C-275/09) [2011] Env. L.R. 26, at paragraph 29; the judgment of Lord Sumption in *R. (on the application of Buckinghamshire County Council) v Secretary of State for Transport* [2014] UKSC 3; [2014] 1 W.L.R. 324, at paragraph 120; and the judgment of Moore-Bick L.J. in *R. (on the application of Bateman) v South Cambridgeshire District Council* [2011] EWCA Civ 157, at paragraph 19).

    (2) The legislation for environmental impact assessment is directed at a project of development. The concept of a "project" is one to which a broad interpretation should be applied (see the judgment of the CJEU in *Aannemersbedrijf PK Kraaijeveld BV v Gedeputeerde Staten van Zuid-Holland* (Case C-72/95) [1996] E.C.R. I-5403, at paragraphs 31 and 39, and the first instance judgment in *R. (on the application of Catt) v Brighton & Hove City Council* [2013] EWHC 977 (Admin), at paragraphs 66 to 72).

    (3) An assessment of the "likely significant effects of the project on the environment" under the EIA Directive extends to the effects of the use of the works as well as their construction (see, for example, the judgments of the CJEU in *Commission v Spain* (Case C-227/01) [2005] Env. L.R. 20, at paragraphs 48 to 50, holding that a project to expand a railway by constructing additional track must be subject to environmental impact assessment, because the use of the expanded railway was likely to cause significant noise; in *Abraham v Wallonia* (Case C-2/07) [2008] Env. L.R. 32, at paragraphs 42 to

44, holding that the assessment for the expansion of an airport by works to improve its existing infrastructure, including the widening of the runways, which would enable it to be used more intensely, had to assess not only the impacts of the expansion itself – the works to be carried out – but also of the increased activity resulting from it; and in *Ecologistas en Accion - CODA v Ayuntamiento de Madrid* (Case C-142/07) [2009] PTSR 458, holding that the impacts of the use of an urban ring road, once improved, must be assessed, and not merely the impacts of the construction works; and the first instance judgment in *R. (on the application of Preston) v Cumbria County Council* [2019] EWHC 1362 (Admin); [2020] Env. L.R. 3, at paragraphs 46 to 49, holding that the assessment for a proposed temporary discharge pipe for a wastewater treatment plant must include not only the effects of the installation of the pipe but also those of its discharge into a river).

(4) Crucially, an environmental impact assessment must address the particular development under consideration, not some further or different project (see, for example, the Court of Appeal's decision in *Preston New Road Action Group and Frackman v Secretary of State for Communities and Local Government* [2018] EWCA Civ 9; [2018] Env. L.R. 18, in particular the leading judgment at paragraphs 60 to 73, holding that the environmental impact assessment for the proposed exploration for shale gas was not legally required to include the effects of the potential later commercial extraction by fracking, for which a further planning permission would be required; and the first instance judgment in *R. (on the application of Khan) v Sutton London Borough Council* [2014] EWHC 3663 (Admin), at paragraphs 121 to 134, holding that the assessment for an energy recovery facility was not legally required to extend to the impact of combined heat and power pipelines running from the application site, which would have to be the subject of another application for planning permission; and cf. *Brown v Carlisle City Council* [2010] EWCA Civ 523; [2011] Env. L.R. 5, where the environmental statement for the development of a freight distribution centre at an airport did not include, as it should have done, an assessment of the effects of the associated improvements to the airport itself, which were part of the same project but the subject of a separate application for planning permission).

(5) The existence and nature of "indirect", "secondary" or "cumulative" effects will always depend on the particular facts and circumstances of the development under consideration (see the judgment of Sullivan L.J. in *Brown*, at paragraph 21; and the judgment of Laws L.J. in *Bowen-West v Secretary of State for Communities and Local Government* [2012] EWCA Civ 321; [2012] Env. L.R. 22, at paragraph 28).

(6) Where an environmental impact assessment has to address the "indirect" effects of a proposed development, it must include a sufficient assessment of such effects (see, for example, the decision of the Court of Appeal in *R. (on the application of Squire) v Shropshire Council* [2019] EWCA Civ 888; [2019] Env. L.R. 36, at paragraphs 39 and 69 of the leading judgment, holding that the environmental impact assessment for an intensive poultry rearing development was defective because it failed properly to consider the impact of odour and dust produced by poultry manure spread on surrounding farmland).

(7) Establishing what information should be included in an environmental statement, and whether that information is adequate, is for the relevant planning authority, subject to the court's jurisdiction on conventional public law grounds (see the judgment of Sullivan J. in *R. (on the application of Blewett) v Derbyshire County Council* [2003] EWHC 2775 (Admin); [2004] Env. L.R. 29, at paragraphs 32, 33 and 41). The applicable standard of review has consistently been held to be the "Wednesbury" standard (see the judgment of the Supreme Court in *R. (on the application of Friends of the Earth Ltd.) v Heathrow Airport Ltd.* [2020] UKSC 52; [2021] PTSR 190, at paragraphs 142 to 145; the judgment of the Court of Appeal in *R. (on the application of Plan B Earth) v Secretary of State for Transport* [2020] EWCA Civ 214; [2020] PTSR 1446, at paragraphs 136 to 144; the judgment of Coulson L.J. in *Gathercole v Suffolk County Council* [2020] EWCA Civ 1179; [2021] PTSR 359, at paragraphs 53 to 55; the judgment of Laws L.J. in *Bowen-West*, at paragraphs 27 to 46; and the judgment of Lang J. in *R. (on the application of Friends of the Earth) v North Yorkshire County Council* [2016] EWHC 3303 (Admin); [2017] Env. L.R. 22 – otherwise known as *Frack Free Ryedale* – at paragraphs 21 to 23). The "Wednesbury" standard of review in its modern application has been elucidated by the Divisional Court (Leggatt L.J. as he then was, and Carr J. as she then was) in *R. (on the application of the Law Society) v The Lord Chancellor* [2018] EWHC 2094 (Admin); [2019] 1 W.L.R. 1649 (at paragraph 98).

The development

16. As described in the county council's decision notice, the development for which planning permission was granted was this:

> "Retention and extension of an existing well site, HH1 and HH2 wells, and vehicular access to allow: the drilling of four new hydrocarbon wells and one water reinjection well; the construction of a process and storage area and tanker loading facility; new boundary fencing; well maintenance workovers and sidetrack drilling; and ancillary development enabling the production of hydrocarbons from six wells, for a period of 25 years".

17. This project for the commercial extraction of crude oil was to proceed in five defined phases, culminating in the site's restoration, and with a production period of about 20 years. The total amount of crude oil extracted in that period might be about 3.3 million tonnes. When the crude oil was brought to the surface, a quantity of natural gas would be produced, and this would be used to provide power for the site during the production phase. Provision would also be made for gas flaring in the event of an emergency and for maintenance. The crude oil would be taken by tankers to refineries for processing. Only once it had been refined would it become useable as fuel. Where the oil would be refined, and where the products of its refinement might be used, whether in the United Kingdom or elsewhere, it was not possible to say.

The environmental impact assessment

18. In October 2018, at the request of Horse Hill Developments, the county council adopted a scoping opinion for the environmental impact assessment. The scoping opinion stated (in paragraph 3.12) that "[direct] emissions associated with the construction and operation of the well site, and the consumption of fuel by vehicles, plant and equipment associated with the well site, would likely be small in scale, and whilst contributing to increased concentrations of greenhouse gases in the atmosphere could not be classed as significant in their own right"; and (in paragraph 3.13) "[the] direct emissions associated with the combustion of natural gas (methane) arising from the hydrocarbon extraction process, and the indirect effects associated with the production and sale of fossil fuels which would likely be used in the generation of heat or power, consequently giving rise to carbon emissions, cannot be dismissed as insignificant", and "[it] is acknowledged that the contribution of the proposed development would be modest when considered in a national or regional context". The "recommendation" (in paragraph 3.14) was that "[given] the nature of the proposed development, which is concerned with the production of fossil fuels, the use of which will result in the introduction of additional greenhouse gases into the atmosphere, … the submitted EIA include an assessment of the effect of the scheme on the climate", which "should consider, in particular, the global warming potential of the oil and gas that would be produced by the proposed well site".

19. In the environmental statement, which accompanied the application for planning permission when it was submitted in December 2018, the "scope of the assessment" of greenhouse gas emissions was "confined to the direct releases of greenhouse gases from within the well site boundary resulting from the site's construction, production, decommissioning and subsequent restoration over the lifetime of the proposed development" (paragraph 107). Paragraph 119 acknowledged that "in order to meet the UK's energy security needs, the Carbon Plan indicates that gas and oil will continue to play a valuable role as we make the transition to a low carbon economy", and that "[gas] will be needed over the coming decades both for heating and for electricity generation". The approach to assessing greenhouse gas emissions was explained in paragraphs 121 and 122:

> "121. The assessment considers direct releases of greenhouse gases consistent with all phases of the proposed development as described in detail within ES Chapter 4. The essential character of the proposed development is the extraction and production of hydrocarbons and does not extend to their subsequent use by the facilities and process beyond the planning application boundary and outwith the control of the Site operators.
>
> 122. The assessment methodology pays regard to national planning policy and guidance that establishes that decision-makers should *'focus on whether the development is an acceptable use of land, rather than on control of processes or emissions where these are subject to approval under pollution control regimes'*. These non-planning regimes regulate hydrocarbon development and other downstream industrial processes and decision-makers can assume that these regimes

> will operate effectively to avoid or mitigate the scope for material environmental harm."

The "Assessment Methodology" (in paragraph 123) identified the sources of greenhouse gas emissions in the proposed development: the combustion of diesel fuel in construction plant, in HGVs servicing the development, and in on-site engines and generation plant, and the combustion of natural gas. The conclusion (in paragraph 144) was that the direct greenhouse gas emission impacts of the development would be of "negligible" significance.

20. In June 2019, a review of the environmental statement was undertaken for the county council by its Principal Environmental Assessment Officer, Dr Jessica Salder, who had also been responsible for the scoping opinion. In her report of that review, she said (in paragraph 4.12) that the environmental statement had responded "in an appropriate and proportionate manner to the requirements of Regulation 4(2) and to the relevant parts of Schedule 4 of the EIA Regulations". Having referred (in paragraph 5.14) to the recommendation in paragraph 3.14 of the scoping opinion, she said (in paragraph 5.15):

> "5.15 The assessment presented in the submitted ES focusses on the direct greenhouse gas emissions of the development and operation of the proposed wellsite. The potential contribution of the hydrocarbons that would be produced over the lifetime of the wellsite is not covered in the submitted ES, the reasons for excluding those emissions are set out in paragraphs 121 and 122 … of the submitted ES. The [county council] accepts the argument set out in paragraphs 121 and 122 … of the submitted ES and the justification provided for excluding consideration of the global warming potential of the produced hydrocarbons from the scope of the EIA process."

21. In her witness statement dated 30 September 2020, Dr Salder refers (at paragraph 21) to greenhouse gas emissions "that could arise from the use of the products manufactured from the crude oil extracted from [the] proposed well site", which, she says, "would not be caused by the proposed well site development, but would arise in any event due to ongoing demand for and consumption of fossil fuels by a range of actors across the private, public, transport and domestic sectors …". She says (at paragraph 28) that "[the] main reason for agreeing that the distant downstream indirect GHG emissions associated with the processing and ultimate use of the crude oil produced from the well site could be reasonably excluded from the scope of the detailed assessment was that such processing and use lay beyond the control of the project to which the assessment related, as set out in paragraph 121 (p.35) of the submitted ES".

The officers' report to committee

22. When the application for planning permission was considered by the county council's Planning and Regulatory Committee on 11 September 2019, the committee had before it a lengthy report from its officers, recommending that planning permission be

granted. The report described the environmental impact assessment, but did not refer to Dr Salder's review. On greenhouse gas emissions, it said (in paragraph 97):

> "97. Greenhouse gas emissions and the climate – the question of the direct impacts of the proposed development on emissions of greenhouse gases and associated climate change is addressed in chapter 6 of the submitted ES. The question of the development's impact on climate change and global atmospheric composition is discussed in greater detail in paragraphs 102 to 162 of this report. On balance, and having taken account of the information and evidence submitted by all parties with an interest in the determination of the current planning application, the CPA has concluded that the proposed development would not give rise to significant impacts on the climate as a consequence of the emissions of greenhouse gases directly attributable to the implementation and operation of the scheme."

23. There followed a lengthy, general discussion of the need for hydrocarbons, domestic energy supply, and climate change, in their respective policy contexts. The officers considered these matters in some detail, though at a broad, strategic level. They referred to European Union climate change objectives, to the Climate Change Act 2008 and its later amendment, and to government policy on climate change (paragraphs 126 to 135). Under the heading "Need for Hydrocarbon Development", the officers acknowledged (in paragraph 159) that the Government had made it "clear that oil and gas remains an important part of the UK's energy mix", and that "[based] on the UK Government's current policy, it is … recognised that the proposed development would not be in conflict with the Government's climate change agenda". They referred (in paragraph 160) to government policies for planning and for energy, including the National Planning Policy Statement ("NPPF"), recognising the "need to maximise indigenous oil and gas resources both onshore and offshore", to which they were "required to give significant weight". They concluded (in paragraph 161) that it was "appropriate that identified reserves of on shore hydrocarbons are properly husbanded to make a valuable contribution by maximising energy recovery of indigenous supplies and contribute to the UK's energy sector and energy security", and (in paragraph 162) that "on the basis of Government guidance there is a national need for the development subject to the proposal satisfying other national policies and the policies of the Development Plan".

The judgment of Holgate J.

24. Holgate J. rejected the submission that anything "attributable" to a proposed development, including environmental impacts liable to result from the use and exploitation of a so-called "end product", should be assessed (paragraph 99 of the judgment). He recorded, and accepted, the "common ground" between the parties that "it is inevitable that oil produced from the site will be refined and, as an end product, will eventually undergo combustion, and that that combustion will produce [greenhouse gas] emissions" (paragraph 100). He identified the "true legal test" in this way (in paragraph 101):

> "101. … [The] fact that the environmental effects of consuming an end product will flow "inevitably" from the use of a raw material in making that product does not provide a legal test for deciding whether they can properly be treated as effects "of the development" on the site where the raw material will be produced for the purposes of exercising planning or land use control over that development. The extraction of a mineral from a site may have environmental consequences remote from that development but which are nevertheless inevitable. Instead, the true legal test is whether an effect on the environment is an effect of the development for which planning permission is sought. An inevitable consequence may occur after a raw material extracted on the relevant site has passed through one or more developments elsewhere which are not the subject of the application for planning permission and which do not form part of the same "project"."

25. Under the regime for environmental impact assessment, the judge said, "[indirect] effects cover … consequences which are less immediate, but … must, nevertheless, be effects which *the development itself* has on the environment" (paragraph 110). He saw no support for Ms Finch's argument in decisions of the CJEU, in particular *Abraham* and *Ecologistas*, or in those of the domestic courts, including *Squire* and *Frackman* (paragraphs 114 to 125). In *Abraham* the "overall effects", including the use of the improved airport, could properly be regarded as effects of the development. And "the phrase "end product" was simply used by [the CJEU] to describe the *outcome* of the project". *Abraham*, he said, "cannot be taken as laying down any principle that an EIA should assess the environmental effects of the use by consumers of an "end product", that is an article or item sold or distributed from a processing facility using a raw material produced on the development site" (paragraph 115). The same applied to *Ecologistas* (paragraph 117).

26. He concluded (in paragraph 126):

> "126. The upshot is that the case law confirms that EIA must address the environmental effects, both direct and indirect, of the development for which planning permission is sought (and also any larger project of which that development forms a part), but there is no requirement to assess matters which are not environmental effects of the development or project. In my judgment the scope of that obligation does not include the environmental effects of consumers using (in locations which are unknown and unrelated to the development site) an end product which will be made in a separate facility from materials to be supplied from the development being assessed. I therefore conclude that, in the circumstances of this case, the assessment of [greenhouse gas] emissions from the future combustion of refined oil products said to emanate from the development site was, as a matter of law, incapable of falling within the scope of the EIA required by the 2017 Regulations for the planning application."

27. In the alternative, on the assumption that his conclusion in paragraph 126 was wrong and that it was "legally possible under [the EIA regulations] for the assessment of [greenhouse gas] emissions from the use of refined oil products to fall within the scope of [environmental impact assessment] for the extraction development proposed at Horse Hill", the judge went on to consider whether the county council's decision was nevertheless a lawfully taken decision. It was, he said, "well established that the decision on whether such an assessment should be carried out as part of an EIA is a matter of judgment for the planning authority, subject to judicial review applying the *Wednesbury* standard, in particular irrationality", citing *Friends of the Earth Ltd.*, at paragraphs 142 to 145, and *Gathercole*, at paragraphs 53 to 55; and he observed that the "threshold for establishing irrationality in such circumstances is high …", citing *Newsmith Stainless Ltd. v Secretary of State for the Environment, Transport and the Regions* [2001] EWHC 74 (Admin); [2017] PTSR 1126 (paragraph 127). Paragraph 122 of the environmental statement had "explained why no assessment was being made of emissions from, for example, oil refineries". Neither that paragraph nor paragraph 121 had relied on "lack of control or the existence of other regulatory regimes to justify the non-assessment of [greenhouse gases] from the combustion of refined oil products" (paragraph 129). The county council's "real reason" for not assessing greenhouse gas emissions from the use of refined oil products – stated in paragraph 121 of the environmental statement and paragraph 5.15 of the review – was that "the essential character of the proposed development is the extraction and production of crude oil, and not the subsequent process of refining the crude oil at separate locations remote from Horse Hill, followed by the use of infrastructure and/or transport for the distribution of the end products, whether in the UK or elsewhere in the world". This explanation was "sufficient to deal with any suggestion of irrationality" (paragraph 131).

28. Holgate J.'s ultimately decisive conclusion, therefore, was this (in paragraph 132):

> "132. … [No] legal criticism can be made of [the county council's] focus on the land use and development proposed because that was the "project" which was the subject of the planning application and the related EIA. Viewed in that way it is impossible to say that [the county council's] judgement that [greenhouse gas] emissions from the combustion of refined fuels were not an environmental effect of the proposed development was, as a matter of law, irrational. [The county council's] judgment was not beyond the range of conclusions which rational decision-makers could lawfully reach."

The first issue – the "true legal test"

29. Mr Marc Willers Q.C., who appeared with Ms Estelle Dehon for Ms Finch, submitted that Holgate J. was wrong to conclude that under the EIA regulations the "true legal test" for an indirect likely significant effect of a development on the environment "is whether [it] is an effect of the development for which planning permission is sought". He had understood the concept of "the proposed development" too narrowly, and had not recognised the breadth of the concept of a "project" under the legislation. He had put a gloss on the EIA regulations, unduly restricting the meaning of "indirect" effects

to the effects of the operations for which planning permission was sought. Mr Willers referred to the Government's relevant guidance, revised in May 2020, which says that "the aim" of environmental impact assessment "is to protect the environment by ensuring that a local planning authority when deciding whether to grant planning permission for a project, which is likely to have significant effects on the environment, does so in the full knowledge of the likely significant effects …". Here, he submitted, the concept of "the proposed development" should be understood to include the extraction of the oil, for profit – its obvious commercial purpose, or "raison d'être". If the court were to adopt a test to determine whether an effect was an "indirect" effect of the proposed development, the right test was whether it was "reasonably foreseeable in light of current knowledge and methods of assessment, given the nature and purpose of the development, whether or not such an effect is within the developer's control".

30. In their written submissions on behalf of Friends of the Earth, Mr Paul Brown Q.C. and Ms Nina Pindham accepted that a simple "but for" test is too broad, and offered this alternative understanding of the concept of "indirect" effects in the legislation: "likely environmental effects more remote than direct effects (whether in time or location), but not so remote that they cannot be attributed to the development at all, having regard to the purpose, nature and any end product of the development, including the environmental impacts liable to result from the use and exploitation of the end product". And it is "then a question for the decision maker whether those are "significant"".

31. Persuasive though these arguments might seem if one imagines a larger role for environmental impact assessment than the legislation actually provides, they are in my view incorrect. They suggest an interpretation of the legislative scheme which would extend environmental impact assessment beyond the direct and indirect environmental effects "of the proposed development" itself to so-called "end products" far removed from that project, and lacking the kind of connection to it that has been seen as a prerequisite in the relevant case law of the CJEU and the domestic courts.

32. In this legislative context, as the case law shows, the concepts of "the proposed development" and the "project" are generally, and certainly in this case, interchangeable. They must be understood broadly, and realistically (see *Frackman*, in particular at paragraphs 63 to 68). Here, as is agreed, they must include the commercial activity of extracting crude oil from the site for export to refineries. This understanding corresponds to the relevant type of "project", identified in paragraph 14 of Annex I to the EIA Directive – the "extraction of petroleum and natural gas for commercial purposes …" and, in parallel terms, in paragraph 14 of Schedule 1 to the EIA regulations. It is consistent with the principle in CJEU and domestic authority that a wide interpretation should be applied to the concept of a "project" (see *Aannemersbedrijf PK Kraaijeveld BV*, at paragraphs 31 and 39, and *Catt*, at paragraphs 66 to 72). Clearly, both the construction of the oil wells and their use for the extraction of crude oil for commercial purposes come within the uniform concepts of "the proposed development" and "the project" in the legislation, just as the use of the additional runway capacity was held to be part of the project in *Abraham*, the use of the urban ring road in *Ecologistas*, and the discharge of treated sewage into the river in *Preston*.

33. This broad approach to the interpretation of the terms "the project" – in its double-limbed definition in article 1(2)(a) of the EIA Directive – and "the proposed development" is not predicated simply on the "purpose" of the project, as opposed to its physical and functional character. Naturally, a project is likely to embody the purpose behind it. But as Ms Harriet Townsend submitted for the county council, the "purpose" of a project does not in itself define what the project actually is, nor does it identify the environmental effects of that project requiring assessment under the legislation. References to the "purpose" of particular developments in the legislation and in the authorities should not be misconstrued in that way. Here, the extraction of crude oil for commercial purposes was the essential content and character of the proposed development. That was the project. The ultimate use of the products generated by the subsequent refinement of the crude oil was not part of that project. Nor, indeed, was the refinement process itself, which would be, in its own right, a separate and substantial industrial activity carried out for profit by the companies concerned. Nor were the distribution and sale of the refined products, which would also be separate commercial activities.

34. In *Frackman*, whatever the operator's commercial purposes may have been, the project itself was confined to exploration for shale gas (see the leading judgment at paragraphs 63 to 67). It did not include any subsequent commercial production, which would only follow, as "a second, distinct and different project – if, but only if, the exploration project proved the existence of a viable resource of gas". And "[that] possible future proposal would have to be considered on its own planning merits when the time came, in the light of the assessment contained in its own environmental statement" (paragraph 63). Anticipating what any future, separate project for extraction might comprise was "a matter of conjecture". In these circumstances it was "not only unnecessary, and inappropriate, for the environmental effects of that unknown development to be included in the EIA for the present project[; it] was also impossible" (paragraph 64). Any future project for extraction was merely "hypothetical" (paragraph 65). This court took the opportunity to reiterate two basic principles: first, that "the existence and nature of "indirect", "secondary" or "cumulative" effects will always depend on the particular facts and circumstances of the project under consideration", and second, "that an environmental statement is not expected to include more information than is reasonably required to assess the likely significant environmental effects of the development proposed, in the light of current knowledge …" (paragraph 67). Thus in a case where there would have to be a further and separate project, which would necessarily be subject to its own environmental impact assessment, and which could properly be said to bring about the environmental impacts in question, those impacts ought to be assessed at that later stage.

35. In the light of the relevant case law, it cannot be said that Holgate J. adopted too narrow an understanding of the concepts of the "proposed development" and the "project" in the legislation for environmental impact assessment. His interpretation was consistent with a true understanding of the definition of a "project" in article 1(2)(a) as "the execution of construction works or of other installations or schemes" and "other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources", and with the relevant and familiar jurisprudence. There is nothing in his judgment to suggest that he interpreted the term "the proposed development" in the EIA regulations as having a narrower meaning than the case law indicates. Though he did not set out the description of the proposed

development given in the county council's decision notice, there is no reason to think he overlooked the obvious fact that the project included the commercial extraction of crude oil for export to refineries. He did not confine his analysis, artificially, to the effects of executing the proposed works themselves – the operational development for which planning permission was required. He clearly had in mind the development in its entirety: its physical form, its use of the land, and how it would function.

36. Nor did he place an unjustified gloss on the relevant provisions of the EIA Directive and the EIA regulations. On a fair reading of his judgment, he was simply construing the legislation as it is drafted, without resorting to any gloss. This was consistent with the established approach to interpreting the EIA regulations (see *Bateman*, at paragraph 19). It gave prominence, as it should, to the provisions referring to the environmental effects "of the project" and "of the proposed development", which frame the requirements for environmental impact assessment in the EIA Directive and the EIA regulations and limit the scope of the legislative regime. The judge was right to stress the consistent phrasing of the relevant concepts in those terms.

37. One must remember that the process of environmental impact assessment is not an end in itself. It is a process with a specific procedure set out in the EIA Directive and the EIA regulations, and it must be carried out in accordance with that procedure. But it is, ultimately, a means of informing and strengthening a larger process, which is the process of determining an application for planning permission for "development" under the planning legislation (see the speech of Lord Hoffmann in *R. v North Yorkshire County Council, ex parte Brown* [2000] 1 A.C. 397, at p. 404). The regime is not intended to regulate the environmental effects of economic or commercial activity, or of the use of land, in general. It is only engaged when a grant of "development consent" for a particular project of development is necessary.

38. It is therefore unsurprising, indeed essential, that the legislation for environmental impact assessment explicitly and consistently requires only the assessment of effects "of the proposed development" or "of the project". That assessment is expected to assist the overarching process for "development consent" which it serves, and into which it is integrated – as is conspicuous, for example, in article 5(1)(c) of the EIA Directive and regulation 18(3) of the EIA regulations. To do this, it must be commensurate with the project itself. It is, as Ms Townsend submitted, "project-centric". Logically, this must apply not merely to the "direct … significant effects" of the development but also to significant effects which are "indirect". Therefore, as Mr Richard Moules submitted for the Secretary of State, to determine whether something is an "indirect" effect under the legislation for environmental impact assessment, the decision-making authority must ascertain whether it is truly an effect "of the proposed development". To come within the reach of the legislation, it must be identifiably an effect of the project in hand (see, for example, *Frackman*, at paragraph 68).

39. The "direct and indirect significant effects of a project" in article 3(1) of the EIA Directive, the "likely significant effects of the project" in paragraph 5 of Annex IV, the "direct and indirect significant effects of the proposed development" in regulation 4(2) of the EIA regulations and the "likely significant effects of the proposed development" in regulation 18(3)(b) do not need any paraphrase or gloss. In the absence of definitions in the legislation, they must be understood as they are expressed. Substituting terms such as "reasonably foreseeable [effects]" or "attributable [effects]" for the wording actually used is inapt. The concept of

"reasonable foreseeability" finds no place in the EIA Directive and the EIA regulations. Nor do the concepts of something being "likely to arise as a result of", or "attributable to", or "an inevitable result of", the proposed development. Nor does the concept of "but for" causation, which would connect a development to events very far along the chain of consequences away from it. Neither the words of the legislation nor the relevant authorities support any of these alternative concepts.

40. To conclude on this issue: if the "relevant planning authority" acts on a correct understanding of the legislation, the question of whether a particular impact on the environment is truly a "likely significant [effect]" of the proposed development – be it a "direct" or "indirect" effect – is ultimately a matter of fact and evaluative judgment for the authority.

41. The real question at issue here, therefore, is not the meaning of the concepts of "the project" and "the proposed development" as such, but the meaning of the concept of "effects", and in particular "indirect" effects, of that development. As the judge rightly emphasised (in paragraph 101 of his judgment), what needs to be considered by the decision-making authority is whether a particular environmental impact is "an effect of the development for which planning permission is sought". But this, I think, is not in itself a statement of the "true legal test". To say that the impact, to qualify for assessment, must be an effect of the development is only to pose the question in different terms. What needs to be considered is the necessary degree of connection that is required between the development and its putative effects.

42. In this case, though the project itself was confined to the construction and use of a working well site for the commercial extraction of crude oil for onward transport to refineries, the judge proceeded on the agreed basis that the eventual combustion of the refined products of the oil extracted at the site was "inevitable" – not merely "reasonably foreseeable" or "likely" or "possible", or the potential result of a future project that was itself only "a matter of conjecture" or merely "hypothetical". This being so, the county council had to establish whether, bearing in mind the intermediate stages which would necessarily have to occur before combustion could take place, the greenhouse gas emissions which would be generated in that way were properly to be regarded as "indirect" effects of the proposed development, or not. In the light of the relevant case law, I do not think this was simply a matter of law for the court. It was, I consider, a question for the county council to determine, subject to the scrutiny of the court on public law grounds. And as the relevant case law also makes plain, it is not the court's role in a claim for judicial review to substitute its own view for the planning authority's on a question of this kind (see *Plan B Earth*, at paragraphs 136 to 144).

43. Unlike the judge, while I agree with his interpretation of the relevant provisions of the legislation, I would not say – as he did (in paragraph 126 of his judgment) – that "in the circumstances of this case, the assessment of [greenhouse gas] emissions from the future combustion of refined oil products said to emanate from the development site was, as a matter of law, incapable of falling within the scope of the [environmental impact assessment] required by [the EIA regulations] for the planning application". I do not think it is possible to say that such an impact is legally incapable of being an environmental effect requiring assessment under the legislation. It follows that the outcome of the appeal, in my view, turns not on the legal possibility of a conclusion to that effect, but on the lawfulness of the decision the county council ultimately reached

that "scope 3" or "downstream" greenhouse gas emissions were not "indirect significant effects of the proposed development" – a decision which, in his alternative conclusion (at paragraph 132), the judge accepted was lawfully taken in any event.

The second issue – the environmental effects of the consumption or use of an "end product"

44. Mr Willers submitted, again with Mr Brown's support, that the judge was wrong to regard the EIA Directive and the EIA regulations as not extending to environmental effects resulting from the consumption or use of an "end product" – a manufactured article or a commodity such as oil, gas or electricity, or steel – ultimately resulting from a series of processes, of which the proposed development was the first. In *Abraham* the CJEU stated (at paragraph 43) that an environmental impact assessment must include "the environmental impact liable to result from the use and exploitation of the end product of [the proposed] works". In principle, it was submitted, "indirect" effects include the impacts of an "end product", and references to an "end product" in the case law do not mean only the development itself in its finished state. Here, according to Mr Willers, the corresponding "end product" was "oil".

45. I think this argument fails to confront the real question to which I have referred. The expression "end product" is not a term of art. It does not appear in the legislation. And when it occurs in the authorities it is not used to enlarge the concept of the likely significant environmental effects "of the proposed development" to include anything which might follow as a consequence of planning permission being granted and implemented for that development.

46. As the judge held (in paragraphs 115 and 117), in *Abraham* the phrase "end product" was used to describe the outcome of the project, which in that case included the use and operation of the airport as improved by the works of construction undertaken – in the French language version, "l'utilisation et l'exploitation des ouvrages issus de ces travaux". The CJEU's decision does not lay down a principle that an environmental impact assessment must assess the environmental effects of the use, by consumers, of a so-called "end product" in the form of something which is subsequently created, sold or distributed from a processing facility using a raw material produced on the application site. In fact, it consolidates the fundamental principle that only the likely significant effects of the project of development in question require to be assessed. The same may be said of the CJEU's judgments in *Ecologistas* and *Commission v Spain*. Not merely the construction work, but in *Ecologistas* the use of the whole urban ring road as improved (in the Spanish language version, "la utilización y la explotación de las construcciones resultantes de dichas obras"), and in *Commission v Spain* the use of the railway line as expanded, had to be assessed. In either case, this was the outcome of the proposed development itself, as completed and used.

47. In this case, if one regards the concept of an "end product" as it has been explicitly applied in the decisions of the CJEU, it extends to the operational well site as constructed, the use of the well site for the commercial extraction of crude oil, and its eventual restoration, which will be the ultimate outcome of the project under consideration. Conceptually, this clearly corresponds to the works of improvement to the airport and, in addition, the use of the airport as thus improved in *Abraham.*

48. No difference of approach is to be seen in the domestic authorities. Though the facts were quite different, the reasoning in *Squire* is consistent with that in *Abraham*, *Ecologistas* and *Commission v Spain* – as it is with other decisions of the domestic courts. The Court of Appeal held that an environmental impact assessment was defective because it failed to assess the environmental effects of a product incidental to the proposed development itself – the manure produced by chickens in the proposed poultry sheds, some of which would be sold to local farmers for storage and spreading on agricultural land. It was common ground in that case that such effects lay squarely within the "indirect" effects of that project of development. The production of manure and its storage and spreading, with the concomitant impacts of odour and dust, was clearly an outcome of the proposed development itself and its use. The claim for judicial review of the authority's decision to grant planning permission for the poultry buildings succeeded on appeal because in the view of this court the authority had failed, before proceeding to its decision, to secure an environmental impact assessment in which these obvious effects of the development proposed were fully and properly assessed (see paragraphs 62 to 69 of the leading judgment). The Court of Appeal did not take itself to be explicating the general meaning of the term "indirect significant effects". The question was only whether those effects had been lawfully assessed as effects of the proposed development.

49. Implicitly, therefore, the decision of this court in *Squire* acknowledges that environmental effects caused by the use of a by-product of the development under consideration – in that case a biological by-product – can be "indirect" effects of that development under the EIA regulations (paragraph 65 of the judgment). However, that decision does not establish that the EIA Directive and the EIA regulations necessarily compel the assessment of environmental effects resulting from the ultimate consumption or use of an "end product" in the sense contended for by Mr Willers, be it a manufactured article or a commodity, where those environmental effects are not actually effects "of the proposed development" itself.

50. Mr Willers submitted that in *Catt* the court did not treat the "end product" of the development as synonymous with its "outcome". I disagree. It was held in that case, following the CJEU's approach in *Abraham* (at paragraphs 42 to 44), that the process of screening must consider "not merely the likely effects of the works themselves but also the impacts liable to result from the use and exploitation of the development once constructed" (paragraph 72 of the judgment). The court recognised that off-site activities, carried out by third parties, may be "cumulative" indirect effects of the project (paragraph 73). However, the court's reasoning in that case is fully consistent with the reasoning in *Abraham*. It reinforces the point that the "end product" as referred to in *Abraham* meant the "outcome" of the project of development being undertaken.

51. Nor does Mr Willers' argument gain any force from the decision in *Preston*. In that case it was held to be necessary to assess the environmental effects of the use of the discharge pipe once installed. This also matches the approach indicated by the CJEU in *Abraham, Ecologistas* and *Commission v Spain*: that the effects of the use and operation of a completed development should be assessed, as well as the works to construct it. No other principle can be drawn from the reasoning there.

The third issue – the assessment of "scope 3" or "downstream" greenhouse gas emissions

52. Ms Dehon submitted that it was wrong to conclude, as the judge had done, that the EIA Directive and the EIA regulations did not require the assessment of "scope 3" or "downstream" greenhouse gas emissions arising from the use of the crude oil extracted from the site – because, as the judge put it, those effects arose from "consumers using (in locations which are unknown and unrelated to the development site) an end product which will be made in a separate facility from materials to be supplied from the development being assessed" (paragraph 126 of the judgment). Ms Dehon submitted, as did Mr Brown, that the county council was legally obliged to require an assessment of "scope 3" greenhouse gas emissions, and that its failure to do so was irrational.

53. There were four strands to this argument. First, in *Catt* it was acknowledged that however a "project itself is defined, the analysis required … may have to embrace a wider consideration of environmental effects" (paragraph 72). In this case there was a closer connection between the proposed development and the effects in issue than in other cases where assessment was held to be necessary, in particular *Squire*.

54. Secondly, Holgate J. was unduly concerned with the wide ramifications of imposing a duty on local planning authorities to require an assessment of "scope 3" greenhouse gas emissions. The "floodgates" would not be opened. The duty would only arise where the commercial extraction of hydrocarbons with a view to their refinement, sale and combustion as fuel was the "purpose" of the development, where the generation of such emissions would follow inevitably from the development, and where the likely effects on the environment would be "significant". As cases in several other jurisdictions show, this is not an outlandish approach, but orthodox.

55. Thirdly, impacts both beneficial and harmful, in unknown locations, depending on the acts of unknown third parties and partly attributable to the development proposed, are often assessed in environmental impact assessments. For example, the effects of new housing development on traffic, the economic impacts of commercial or industrial development and the effect of an out-of-town shopping development on a town centre or on employment in the locality were all routinely the subject of such assessment. Assessing the impact of "scope 3" greenhouse gas emissions is not impossible or difficult to do; there are methods for doing it.

56. And fourthly, this might be the only opportunity for the effects of such emissions to be assessed in an environmental impact assessment – unless it were done for the proposed development of a new oil refinery. Applying the "precautionary principle", and adopting a suitably broad and purposive approach to the interpretation of the legislation, the court should conclude that the effects of the greenhouse gas emissions which would be generated by the combustion of the refined products of the crude oil extracted at the application site must be assessed at this stage.

57. This is not an argument I can accept. It cannot be reconciled with the analysis I believe to be right on the previous two issues. The first difficulty it meets is that the decision to require or not to require an assessment of the impacts of "scope 3" greenhouse gas emissions potentially attributable to the ultimate use of the refined products of the crude oil extracted by the proposed development was one of fact and evaluative judgment for the county council as the "relevant planning authority",

challengeable only on "Wednesbury" grounds (see paragraph 15(7) above). To suggest, as an immutable general principle, that such emissions must always be regarded as "indirect" effects of a development for the production of "fossil fuels" – or that they can never be – is incorrect.

58. The relevant law is clear, familiar and well established. In *Friends of the Earth*, Lord Hodge and Lord Sales, with whom the other members of the Supreme Court agreed, approved the relevant parts of the respective judgments of the Court of Appeal (paragraphs 126 to 144) and the Divisional Court (paragraphs 401 to 435) in the preceding stages of the Heathrow third runway case. The Court of Appeal and the Divisional Court had approved the approach of Sullivan J. in *Blewett* (at paragraphs 32, 33 and 41). Lord Hodge and Lord Sales noted (in paragraph 142 of their judgment) that "*Blewett* has been consistently followed in relation to judicial review of the adequacy of environmental statements produced for the purposes of environmental assessment under the EIA Directive and endorsed at the highest level". They went on to say (in paragraph 143) that "[as] Sullivan J. held in *Blewett* (paras 32-33), where a public authority has the function of deciding whether to grant planning permission for a project calling for an environmental impact assessment under the EIA Directive and the EIA Regulations, it is for that authority to decide whether the information contained in the document presented as an environmental statement is sufficient to meet the requirements of the Directive, and its decision is subject to review on normal ["Wednesbury"] principles". The Court of Appeal had observed in *Plan B Earth* (at paragraph 136) that "[the] authority must be free to form a reasonable view of its own on the nature and amount of information required, with the specified considerations in mind"; and the Divisional Court in *R. (on the application of Spurrier) v Secretary of State for Transport* [2019] EWHC 1070 (Admin); [2020] PTSR 240 (at paragraph 434), that "decisions on the inclusion or non-inclusion in the environmental report of information on a particular subject, or the nature or level of detail of that information, or the nature or extent of the analysis carried out, are matters of judgment for the plan-making authority".

59. Both the Court of Appeal (at paragraph 127) and the Divisional Court (at paragraph 420) had also referred to this court's decision in *Bowen-West* – as did this court in *Frackman* (at paragraphs 67 and 73). In *Bowen-West* the central question for the court was whether the Secretary of State had been bound to treat certain proposals as involving or constituting "indirect, secondary or cumulative effects" of the existing proposal, under the EIA regulations (paragraph 7 of the judgment of Laws L.J.). Laws L.J. described the issue which the Secretary of State had to determine as "[first] and foremost, … an issue of fact" (paragraph 28). The views of the inspector and the Secretary of State "as the primary judges of fact" were, he said, "entitled to very considerable weight" (paragraph 29). He cited the observation of Sullivan L.J. in *Brown* (at paragraph 21) that "[the] answer to the question – what are the cumulative effects of a particular development – will be a question of fact in each case". He rejected an argument that the question of whether the effects of the larger scheme were cumulative effects of the smaller was one of law, and emphasised that "the texts are all consistent with the proposition that what are and what are not indirect, secondary or cumulative effects is a matter of degree and judgment" (paragraph 30), which he distinguished from "the obvious proposition that the meaning of a text is for the court to ascertain …" (paragraph 31). The question here, he said, was "quintessentially a matter of judgment" (paragraph 33). Relevant authority indicated

that "the conventional ["Wednesbury"] approach" applied (paragraph 39). The "merits issues" were "for the factual judgment of the Secretary of State", and his conclusions upon them were "not impeachable on any legal ground" (paragraph 45).

60. The essential question for the "relevant planning authority" in a case such as this, therefore, is whether there is, in fact, a sufficient causal connection between the project under consideration and a particular impact on the environment for that impact to constitute one of the "indirect significant effects of the proposed development". The fact that certain environmental impacts are inevitable may be relevant to the question of whether they are "effects of the proposed development". In some cases, the inevitability of those impacts might make it more likely that they are effects of the development. But it does not compel the conclusion that they are, in fact, such effects (see paragraphs 39 to 42 above). The notion that it does is misconceived. As Holgate J. said (in paragraph 101 of his judgment), "the fact that the environmental effects of consuming an end product will flow "inevitably" from the use of a raw material in making that product does not provide a legal test for deciding whether they can properly be treated as effects "of the development" on the site where the raw material will be produced …"; and "[an] inevitable consequence may occur after a raw material extracted on the relevant site has passed through one or more developments elsewhere which are not the subject of the application for planning permission and which do not form part of the same "project"".

61. In the particular circumstances of this case, at least, I do not think the impacts of "scope 3" greenhouse gas emissions from the subsequent combustion of the refined products of the crude oil extracted at the application site could only reasonably be regarded as "indirect significant effects of the proposed development" so that the county council's decision not to require their assessment under the EIA Directive and the EIA regulations was "Wednesbury" unreasonable. In my view that decision cannot be said to exceed the bounds of reasonable evaluative judgment on the facts here.

62. The judge went further. In the circumstances of this case he considered that the lack of connection between the proposed development and any "scope 3" greenhouse gas emissions made it impossible "as a matter of law" to regard those emissions as capable of falling within the assessment required by the EIA regulations for Horse Hill Developments' application for planning permission. That is the thrust of his conclusion in paragraph 126 of his judgment.

63. As I have said, I would not hold that this was impossible strictly "as a matter of law". But in my opinion the county council was clearly entitled to decide as it did in this case, as a matter of lawful evaluative judgment. Whether there was a sufficient causal connection between the proposed development and the impacts of "scope 3" greenhouse gas emissions was a classic question of fact and judgment for the decision-making authority. It was for the county council – not now to be second-guessed by the court – to decide whether, in addition to the assessment of greenhouse gas emissions generated on the application site, a further assessment should be required covering the impacts of the ultimate consumption of refined products of the crude oil extracted by the proposed development. The county council's decision not to require that additional assessment was, in my view, reasonable and lawful. This is the thrust of the judge's alternative conclusion in paragraph 132 of his judgment, with which I agree.

64. That conclusion, as I see it, is a true reflection of the guiding principles in the European Union and domestic case law. One of those principles is central. To require assessment under the legislation for environmental impact assessment, impacts on the environment must be effects "of the proposed development". They must have, in the decision-maker's judgment, a sufficiently close connection with that particular development to be at least indirect effects of it.

65. In this case I cannot agree with the submission that "scope 3" or "downstream" greenhouse gas emissions were sufficiently connected to the proposed development to create for the county council an effective obligation in law to require their assessment as indirect effects under the EIA Directive and the EIA regulations. They were not connected to the development in the same way as the impacts of the storage and spreading of the manure in *Squire*. In that case the manure was a product of the development itself in its operation as a poultry enterprise: a waste product with a commercial value. The connection between the development and the impacts in question was clear as a matter of fact, and not dependent on a series of intermediate processes. Here, by contrast, the crude oil extracted at the application site could only find its way to the various uses that might be responsible for the impacts in question once it had passed through several other distinct processes and activities, including, initially, its refinement, followed by the onward transportation and distribution of the refined products, and their eventual sale for use as fuel, which would only then, in various places at various times, produce emissions of greenhouse gases. The refinement of the extracted oil to render it useable as fuel was not part of the project. Neither was the future combustion of the refined products, or any infrastructure in which that might occur. As Ms Townsend submitted, decisions yet to be made "downstream" would determine how much of the oil would end up being combusted, and whether the economic demand for it would rise or fall. Moreover, there has been no suggestion that any of the environmental impacts resulting from the intermediate process of refinement ought to have been taken into account in the environmental impact assessment for the proposed development of crude oil extraction as if they were effects of that development. That is not part of the argument advanced for Ms Finch, or for Friends of the Earth. What is submitted, in effect, is that the county council could only reasonably conclude that environmental impacts several steps further away than refinement ought to have been assessed. That proposition is, in my view, untenable.

66. In the circumstances of this case, the county council's decision not to enlarge the assessment of greenhouse gas emissions to cover "scope 3" or "downstream" emissions as well as those caused by the development itself was legitimate. It had a reasonable and lawful basis for deciding not to insist on such an assessment here – which was that "scope 3" emissions were not, in truth, effects "of the proposed development" it was dealing with. In this case the environmental effects of such emissions could reasonably be seen as far removed from the proposed development itself, and not causally linked to it, because of the series of intervening stages between the extraction of the crude oil and the ultimate generation of those emissions – remote enough, therefore, for the council lawfully to conclude that it did not qualify as one of the "likely significant effects of the proposed development" on the environment.

67. Whether in other cases, in different circumstances involving development for the extraction of hydrocarbons, "downstream" impacts might properly be regarded as

"indirect" effects on the environment, so that it would be reasonable and lawful for a local planning authority in those circumstances to require their assessment, is not a question we have to decide. The specifics of such projects will vary greatly from one kind of "fossil fuel" to another. The need for a wider assessment of greenhouse gas emissions may sometimes be appropriate, and possibly not contentious. One can imagine possible scenarios. But I do not think it would be helpful for us to set about inventing examples on hypothetical facts unrelated to the case before us.

68. It can make no difference to this understanding of the legislative regime for environmental impact assessment that the impacts of "downstream" greenhouse gas emissions might not come to be assessed under that regime at some later stage. This might be the only or last opportunity for the impacts of such emissions to be assessed. Or it might not. But as Holgate J. recognised, the legislation is concerned with the development of land and the environmental effects of that development and its operation. It was not conceived as a means of ensuring that every kind of impact on the environment, even an inevitable impact, is sooner or later assessed in an environmental statement regardless of any causal connection with a "proposed development" for which planning permission is sought and an environmental impact assessment required. Where there will or may be some further project which could properly be said to bring about the environmental impacts in question, those effects ought to be assessed at that later stage – as was held by this court in *Frackman*. But it does not follow that the converse is also true. The fact that a particular impact on the environment will not necessarily be assessed in the course of a decision-making process for another development in the future does not mean it must therefore be made the subject of environmental impact assessment now.

69. Holgate J.'s decision in this case has recently been referred to with approval, albeit obiter, by the Inner House of the Court of Session (the Lord President, Lord Menzies and Lord Pentland) in *Greenpeace Ltd. v Advocate General* [2021] CSIH 53; 2021 S.L.T. 1303 – a case concerning equivalent legislative provisions. There the court had to consider whether an environmental impact assessment for a project to exploit the Vorlich oil field in the North Sea by drilling and operating two wells ought to have included an assessment of the impacts of the later consumption of the extracted and refined oil. As it said (at paragraph 64), the ultimate consumption of oil and gas – once they had been extracted from the wells, transported, refined, and sold to and used by consumers – did not give rise to "direct or indirect significant effects of the relevant project". In the court's view, the "ultimate use of a finished product" was "not a direct or indirect effect of the project", and it was "that effect alone which, in terms of the Regulations, must be assessed". In agreement with the reasoning of Holgate J. in paragraph 101 of his judgment, the court went on to say that "[however] broad and purposive an interpretation of the Regulations or the Directive might be attempted, the clearly expressed wording of the legislation cannot be disregarded" (paragraph 65). It is "the effect of the project, and its operation, that is to be considered and not that of the consumption of any retailed product ultimately emerging as a result of a refinement of the raw material". The "parameters of what is to be assessed are defined by reference to the effects of the project" – which is "in contrast to cases in which the decision maker is formulating planning policy and is consulting on what is relevant ([*R. (on the application of Stephenson) v Secretary of State for Housing, Communities and Local Government* [2019] EWHC 519 (Admin); [2019] PTSR 2209]) or where the relevance of ultimate use is not disputed ([*H.J.*

Banks & Co. Ltd. v Secretary of State for Housing, Communities and Local Government [2018] EWHC 3141 (Admin); [2019] Env. L.R. 20])". Holgate J.'s approach was not dissimilar to Lang J.'s in *Frack Free Ryedale* and was consistent with the Court of Appeal's in *Frackman* (paragraph 66). As the court also observed, however, the argument was in that case "academic"; it had not been maintained that the exploitation of the Vorlich field would increase, or even maintain, the current level of consumption of oil and gas (paragraph 68).

70. The remaining arguments on this issue can be dealt with shortly. Mr Elvin submitted that the regime for environmental impact assessment requires attention to be given to matters within the control of the developer. Thus, for example, the EIA regulations – in paragraph 8 of Schedule 4 – contemplate the possibility of a developer mitigating the environmental impacts of his development. This brings into play the general rule that planning conditions should not be imposed to require a result which the landowner is powerless to achieve (see, for example, *Davenport v Hammersmith and Fulham London Borough Council* (1999) 78 P. & C.R. 421, at p. 425), and the analogous principle that a section 106 obligation can only be required where there is a substantial connection with the proposed development itself (see *Aberdeen City and Shire Strategic Planning Authority v Elsick Development Company Ltd.* [2017] UKSC 60; [2017] PTSR 1413, at paragraphs 29, 30, 47, 48 and 61 to 63). I can see the force of that point. In principle, however, I do not accept that the level of "control" or lack of "control" which the developer would have over future occurrences off-site and the possibility or impossibility of his taking steps to avoid or mitigate harm to the environment, though it can be a relevant factor, will of itself determine whether those events are "indirect significant effects of the proposed development". The crucial question here, as Mr Elvin acknowledged, is whether the impact – be it harmful or beneficial – is sufficiently causally connected to the development to be an indirect effect of it under the legislation.

71. Ms Townsend submitted that it was uncertain whether the extraction of the crude oil at Horse Hill Well Site would in fact lead to a net increase in "scope 3" greenhouse gas emissions. Once sold, it would form an indistinguishable part of the oil market. The EIA regulations do not require the impossible (see *Frackman*, at paragraphs 72 and 73; and *Frack Free Ryedale*, at paragraphs 37 to 39). That is true. But again it is not, in itself, the crucial point. We can accept that it is scientifically possible to calculate a theoretical level of greenhouse gas emissions from the combustion of a given quantity of hydrocarbons (see, for example, *H.J. Banks*, at paragraphs 73 to 88). General estimates of the greenhouse gas emissions from the combustion of the refined products of the crude oil extracted by a particular development can be made, using the methodology in the Institute of Environmental Management and Assessment guidance. This was common ground before us. Whether the oil extracted from the development, once refined, distributed, sold and used, will be responsible for a net increase in global greenhouse gas emissions is a different question. Again, a reliable estimate is not impossible – as one sees, for example, in the decision of the Hague District Court in *Vereniging Milieudefensie and others v Royal Dutch Shell Plc* C/09/571932 (English version: HA ZA 19-379), which accepted the finding of UNEP's 2019 Production Gap Report that "studies using elasticities from the economics literature have shown that for oil, each barrel left undeveloped in one region will lead to 0.2 to 0.6 barrels not consumed globally over the longer term" (paragraph 4.4.50). But none of this disturbs the reasoning that resolves the basic

question in this case – which is not whether an assessment of the impacts of "scope 3" greenhouse gas emissions was technically possible, but whether it was unlawful for the county council not to require such an assessment here.

72. We were shown several cases in other jurisdictions, European and non-European, which related, in one way or another, to projects of hydrocarbon extraction, in which courts have considered the legal implications, in various contexts, of the impacts of "downstream" greenhouse gas emissions. I shall touch on them only lightly – because, as was submitted by Ms Townsend, Mr Elvin and Mr Moules, none of them has any direct bearing on the legal issues in the case before us.

73. The proceedings in *Royal Dutch Shell* concerned the scope of the company's private law duty of care and its interaction with the European Union Emission Trading Scheme, the court holding that the company was obliged to reduce its CO_2 emissions in accordance with the "unwritten standard of care" laid down by the Dutch Civil Code. Important as the case undoubtedly is in the broader dynamic of environmental law, it did not require the court to grapple with the legislative requirements for environmental impact assessment.

74. The decision of the Norwegian Supreme Court in *Nature and Youth Norway and others v The Ministry of Petroleum and Energy*, 22 December 2020, HR-2020-2472-P (Case No. 20-051052SIV-HRET) concerned the validity of a royal decree granting petroleum licences in Norwegian marine areas in the Barents Sea. One of the issues was whether the prior opening decision for the award of petroleum production licences in Norwegian marine areas was in breach of the legislation for strategic environmental assessment. The opinion of the majority was that, at the stage in the licensing process at which a "plan for development and operation" would have to be approved, "it would have been up to the Ministry and the Government to decide whether it was appropriate to refer to and discuss the question of climate effects on a superior level – i.e. as part of the Norwegian climate policy – rather than addressing them in the individual environmental assessment" (paragraph 234). No issue arose on the proper ambit of environmental impact assessment.

75. In *Gray v Minister for Planning and others* [2006] NSWLEC 720, in a materially different legislative and factual context from the case before us, Pain J., sitting in the New South Wales Land and Environment Court, held, on the facts, that there was "a sufficiently proximate link" between the mining of a large reserve of thermal coal and the effects of burning that coal in coal-fired power stations, to require assessment of the effects of greenhouse gas emissions in the environmental assessment for the coal mine (see the judgment, at paragraphs 83 to 100, citing the decision of the Federal Court of Australia in *Minister for the Environment and Heritage v Queensland Conservation Council Inc.* [2004] FCAFC 190 that the Minister was under a duty to consider the impacts of the proposed construction of a new dam on the Dawson River upon downstream pollution by irrigators).

76. In *Gloucester Resources Ltd. v Minister of Planning and Another* [2019] NSWLEC 7, another decision of the New South Wales Land and Environment Court, Preston J. accepted (in paragraphs 486 to 513 of his judgment) that the impacts of "scope 3" greenhouse gas emissions should be assessed for the project of open cut coal mining which the court was considering in an appeal on the planning merits against the Minster of Planning's refusal of permission. The judge observed (in paragraph 503)

that such emissions are commonly understood to relate to "sold goods and services and thus caused by end users' use of the product (e.g. coal) produced by a project". It should be noted that he was considering that project in the light of a policy which required the assessment of downstream greenhouse gas emissions for hydrocarbon development.

77. We were also taken to the decision of the District Court of Columbia in *WildEarth Guardians v Zinke* 368 F. Supp. 3d 41, 73 (DDC 2019) holding that the United States Bureau of Land Management did not sufficiently consider climate change when making decisions under the Mineral Leasing Act, in a statutory context, under the National Environmental Policy Act, where the definition of "indirect" environmental effects refers to their being "reasonable foreseeable".

78. One can see how in each of those cases, in the specific legal context that arose, the court was able to reach the conclusions it did on the issues it had to decide. In my view, however, we can gain no assistance from them in resolving the issues in this appeal, which arise on different facts under the legislative regime for environmental impact assessment in this jurisdiction, construed in the light of the relevant case law of the CJEU and the domestic courts.

The fourth issue – "reasons"

79. Ms Dehon submitted that even if an authority's failure to require an assessment of the impacts of "scope 3" greenhouse gas emissions was not necessarily always unlawful in circumstances such as these, the county council's decision not to require such an assessment in this case was still bad in law. She argued that the reasons given for the decision betray its legal flaws. First, she submitted, the county council took into account immaterial considerations. Its decision not to require an assessment of the effects of greenhouse gas emissions was based, at least in part, on the fact that the use of the oil after extraction was "outwith the control of the Site operators", and on the existence of "non-planning" regimes to "regulate hydrocarbon development and other downstream industrial processes", which would "operate effectively to avoid or mitigate the scope for material environmental harm". Secondly, the county council had taken into account as a positive consideration, weighing in favour of the proposal, the need for the oil which was to be extracted and the contribution it would make to meeting the United Kingdom's energy needs, but not the negative impact that burning its refined products would have on global climate change. This, Ms Dehon submitted, was inconsistent to the point of unlawfulness.

80. I disagree with both submissions. The county council did not, in my view, rely on immaterial considerations in judging how far the environmental impact assessment for this project should go in assessing greenhouse gas emissions, nor was its decision otherwise unlawful.

81. The county council's reasons for deciding not to require assessment of "scope 3" emissions are to be seen in paragraph 5.15 of the review report and the relevant passages of the environmental statement to which reference was made. Paragraph 5.15 of the review report confirmed that "the argument set out in paragraphs 121 and 122 … of the [environmental statement] and the justification provided for excluding

consideration of the global warming potential of the produced hydrocarbons from the scope of the EIA process" was accepted. Paragraph 121 of the environmental statement says that the assessment covers the "direct releases of greenhouse gases consistent with all phases of the proposed development". It justifies this approach by stating that "[the] essential character of the proposed development is the extraction and production of hydrocarbons and does not extend to their subsequent use by the facilities and process beyond the planning application boundary and outwith the control of the Site operators". Paragraph 122 goes on to refer to the assessment methodology adopted, stating that this does not focus on the "control of processes or emissions where these are subject to approval under pollution control regimes", and that "[these] non-planning regimes regulate hydrocarbon development and other downstream industrial processes and decision-makers can assume that these regimes will operate effectively to avoid or mitigate the scope for material environmental harm".

82. No legal error can be discerned in the relevant conclusions of the review report and the passages in the environmental statement to which they refer. Those conclusions should be read in the spirit of realism with which the court reviews the decision-making of planning authorities (see *R. (on the application of Mansell) v Tonbridge and Malling Borough Council* [2017] EWCA Civ 1314; [2019] PTSR 1452, at paragraphs 41 and 42; and *East Staffordshire Borough Council v Secretary of State for Communities and Local Government* [2017] EWCA Civ 893; [2018] PTSR 88, at paragraph 50). On a fair reading, they explain why the county council decided as it did. There is no suggestion in them, or anywhere else in the relevant material, that the county council believed it was bound as a matter of law not to require an assessment of "scope 3" greenhouse gas emissions in this case. They represent a professional officer's evaluative judgment on the question the county council had to decide – not a lawyer's attempt to state a principle or rule obviating the need for evaluative judgment. They engage with the question of whether or not, in the circumstances of this particular case, an assessment of "scope 3" greenhouse gas emissions should be required.

83. The question the county council had to consider was not a complex one. It was a matter of fact and judgment of the kind that planning authorities often have to decide. Did the environmental impact assessment for the proposed development of oil extraction have to extend to an assessment of the impacts of "scope 3" greenhouse gas emissions, or not? The answer was either "Yes" or "No" – "Yes" if, in the county council's judgment, these were likely significant effects of the proposed development, "No" if they were not. The county council had been alert to this question at least from the time when it issued the scoping opinion, indicating its initial stance that "[the] assessment should consider … the global warming potential of the oil and gas that would be produced by the proposed well site" (paragraph 3.14). Officers knew that it had to be resolved before the application for planning permission could be taken to committee.

84. An elaborate explanation for the county council's decision was not required. In the court below, as also before us, it was "common ground that the decision of a planning authority on the adequacy of the [environmental statement] and [environmental impact assessment] is not subject to a duty to give reasons under the [EIA regulations] or the EIA Directive" (paragraph 78 of Holgate J.'s judgment). In these

circumstances, if in reality the county council's decision not to require an assessment of "scope 3" greenhouse emissions was evidently founded on reasons which are legally sound, the decision itself may be presumed lawful. This presumption is not irrebuttable. It might be rebutted if the county council had demonstrably relied on other, illegitimate reasons in reaching its decision (see "De Smith's Judicial Review", eighth edition, at paragraph 5-131).

85. Taking that straightforward approach, one can see the essential and lawful basis for the county council's decision not to require an assessment of the impacts of "scope 3" emissions in this case. It was that in the county council's judgment such impacts were not, in fact, effects of the proposed development. As was stated in paragraph 5.15 of the review report, "[the] assessment presented in the submitted ES focuses on the direct greenhouse gas emissions of the development and operation of the proposed well site". Reading paragraph 5.15 of the review report together with paragraphs 107, 121 and 122 of the environmental statement, which explain why the only greenhouse gas emissions for which an assessment had been undertaken were the "direct releases" from the "the proposed development" itself, and why "scope 3" emissions had not been included, one can see that the county council had in mind, as it should, "[the] essential character of the proposed development". That is how it was put in paragraph 121 of the environmental statement. The "essential character" of the development was correctly described as being "the extraction and production of hydrocarbons". It was recognised explicitly, and again correctly, that this did "not extend to [the hydrocarbons'] subsequent use" by other facilities and processes. Inherent in this is the conclusion, as a matter of fact and judgment, that the necessary causal connection between the proposed development and the impacts of "scope 3" greenhouse gas emissions was absent in this case. And that conclusion provided a cogent and sufficient answer to the basic question which the county council had to decide, and had effectively set for itself when stating its provisional view in the scoping opinion. It was plainly an answer directed to the crucial point, which was whether or not the impacts under consideration were effects of the proposed development. This was all that had to be decided.

86. Did the other matters referred to in paragraphs 121 and 122 of the environmental statement invalidate the county council's decision not to require assessment of the impacts of "scope 3" greenhouse gas emissions? I do not think they did. The observation in paragraph 121, repeated by Dr Salder in her witness statement, that the "essential character of the proposed development … does not extend to [the hydrocarbons'] use by the facilities and process … outwith the control of the Site operators" is true as a matter of fact. Even if one ignores evidence given after the event and looks only at the contemporaneous documents, the meaning is clear. The reference to Horse Hill Developments' lack of "control" was, in context, to reinforce the point that "the proposed development" did not extend beyond extraction, to other facilities and processes, including refinement of the extracted crude oil, and therefore that the impacts of emissions from those facilities and processes were too remote from the proposed development to require assessment in the environmental statement.

87. There is no force in the complaint, directed at paragraph 122 of the environmental statement, that the county council wrongly relied on the existence of "non-planning" regulatory regimes as a reason for not requiring an assessment of the impacts of "scope 3" greenhouse gas emissions, however generated. The criticism is premised on

a misreading of what is actually said. Paragraph 122 does not change the explanation of the assessment given in paragraph 121. It emphasises the distinction referred to, in the passage it quotes from the NPPF, between the role of development control under the planning system and the "control of processes or emissions where these are subject to approval under pollution control regimes" (paragraph 183 of the NPPF). It also points out – as does government policy in the NPPF (ibid.) – that planning decision-makers can assume that those "non-planning regimes", where they apply to "hydrocarbon development and other downstream industrial processes", will work effectively. It does not, however, assert or imply that the existence of those regimes would of itself justify the non-assessment of any effects of the proposed development on the environment, direct or indirect. As Holgate J. held, it does not alter the justification for the non-assessment of "scope 3" greenhouse gas emissions given in paragraph 121.

88. One is left, therefore, with a proper explanation for the county council's decision not to insist on such an assessment. Terse as they were, the reasons are adequate and intelligible. And they do not expose any error of law.

89. I should add that there is no complaint about the conclusion in paragraph 144 of the environmental statement that the greenhouse gas emissions generated by the development itself would be of "negligible" significance. That conclusion is reflected in the officers' report to the county council's committee, which confirmed the county council's view "that the proposed development would not give rise to significant impacts on the climate as a consequence of the emissions of greenhouse gases directly attributable to the implementation and operation of the scheme" (paragraph 97). There was no need for the officers to refer in the committee report to the conclusion already reached that the impacts of "scope 3" greenhouse gas emissions were not "indirect" effects of the proposed development requiring assessment in the environmental statement.

90. Finally, I reject the submission, developed by Ms Dehon in reply, that the county council's decision-making was internally inconsistent and unreasonable in the "Wednesbury" sense. To demonstrate such unreasonableness is seldom easy for a claimant challenging a grant of planning permission (see the judgment of Sullivan J., as he then was, in *Newsmith Stainless Ltd.*, at paragraphs 6 to 8). The attempt to do so here fixes on the officers' report to committee, which – it is said – drew attention to the need to maximise indigenous oil and gas resources and the contribution the proposed development would make to meeting that need, but neglected the consequences for climate change. In my view, however, this was not a legal error in the officers' handling of the proposal.

91. In paragraphs 102 to 162 of their report the officers did not attempt a close examination either of the specific need for this particular development or of its possible implications for climate change. The relevant discussion was, throughout, at a broad strategic level. It has not been suggested, and could not be, that the officers ought to have omitted these matters from their consideration of the planning merits. The fact that the development would, in a general sense, help to meet a continuing national need for identified reserves of on-shore hydrocarbons to be husbanded was properly taken into account as a material consideration for the determination of the planning application, as were the relevant policies relating to climate change. However, there was no estimate of the precise contribution which the oil produced at

the site might make to the continuing national need for hydrocarbons, nor an assessment of the particular impacts, negative or positive, of using the refined products of that oil. That was not the level at which the officers discussed these matters.

92. I do not think there was any unlawful inconsistency, or divergence of approach, in the decision-making process as a whole. To take into account the general need for the hydrocarbons which would be produced by the proposed development and, under the policy in paragraph 205 of the NPPF, that "great weight" should be given the economic benefits of mineral extraction, was not logically or legally incompatible with a decision to exclude from the environmental impact assessment the impacts of "scope 3" or "downstream" greenhouse gas emissions from the burning of refined oil products. If, as I have concluded, the county council's decision not to require an assessment of "scope 3" greenhouse gas emissions in the environmental statement was taken in accordance with the legislation for environmental impact assessment and consistently with the relevant case law, that conclusion is not undone by the lawful treatment of need, at a general level, as a material consideration in determining the application for planning permission. In principle, there is nothing inconsistent, let alone "Wednesbury" unreasonable, in a planning authority taking into account a relevant planning need when considering the merits of the application for planning permission before it but not requiring the environmental statement to include an assessment of impacts which it lawfully judges to lie beyond the "direct and indirect significant effects of the proposed development". Contrary to Ms Dehon's submission, there was no unlawful failure here to "balance the scales".

Conclusion

93. For the reasons I have given I would dismiss the appeal.

94. I should add, finally, that I have had the benefit of reading in draft the dissenting judgment of Moylan L.J., and have sought to make plain why I respectfully disagree with the analysis it contains.

Lord Justice Moylan:

95. While I agree with much of what is set out in the judgment of the Senior President of Tribunals, I regret that I do not agree with his conclusion, with which Lewison LJ agrees, as to the lawfulness of Surrey County Council's decision in this case on the issue of greenhouse gas emissions. In my view, the conclusion, that the greenhouse gas emissions which would be caused by the use of the oil extracted from the Horse Hill Well Site were not relevant effects of that project or development and did not, therefore, have to be addressed in the Environmental Impact Assessment ("the EIA"), was legally flawed.

96. Although I appreciate that it is repetitive, in order to make my judgment self-explanatory, I propose to provide my own summary of the legal framework and of the

manner in which the EIA was addressed in this case, focusing on the reasons given by the county council to support their conclusion.

97. As set out in paragraph 1 of the Senior President's judgment:

> "The basic question in this case is whether, under Directive 2011/92 EU of the European Parliament and of the Council ("the EIA Directive") and the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ("the EIA regulations"), it was unlawful for a county council, as mineral planning authority, not to require the environmental impact assessment for a project of crude oil extraction to include an assessment of the impacts of greenhouse gas emissions resulting from the eventual use of the refined products of that oil as fuel."

The key issue is whether the county council's implicit conclusion, that the "inevitable" greenhouse gas emissions which would be produced through the use of the oil extracted at the site were not a relevant effect of the development, was legally flawed. As I seek to explain below, I consider that the county council's reasons for concluding that such emissions were not effects of the extraction of oil for commercial purposes from the Horse Hill Well Site are legally flawed. The EIA does not, therefore, comply with the requirements of the EIA Directive and the EIA regulations and planning permission cannot lawfully be granted.

Legal Framework

98. The EIA Directive and the EIA regulations apply, as set out in article 1(1) of the EIA Directive, "to the assessment of the environmental effects of those public and private projects which are likely to have significant effects on the environment".

99. The EIA Directive applies to a "project"; the EIA regulations apply to a "development". They are clearly synonymous words. There is no definition of "development" in the EIA regulations, but "project" is defined in article 1(2)(a) of the EIA Directive:

> "'project' means:
>
> - the execution of construction works or of other installations or schemes,
>
> - other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources".

100. Projects/developments are divided, in summary, into those in respect of which an EIA is required and those in respect of which it may be required. The former are set out in Annex I of the EIA Directive and Schedule 1 of the EIA regulations. This is because, as set out in article 2(1) of the EIA Directive, such projects:

> "likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a

> requirement for development consent and an assessment with regard to their effects".

They include a project or development which involves:

> "(14) Extraction of petroleum and natural gas for commercial purposes where the amount extracted exceeds 500 tonnes/day in the case of petroleum and 500,000 cubic metres/day in the case of gas."

101. Projects/developments which may require an EIA are set out in Annex II of the EIA Directive. Under article 4(2) of the Directive, Member States are required to determine whether the projects listed in Annex II are to be subject to an EIA either on a "a case-by-case examination" or by reference to "thresholds or criteria set by the Member State". Schedule 2 of the EIA regulations takes the latter approach by setting out the applicable thresholds and criteria for each type of development. In some circumstances, it is "All development" but in most it is by reference to the scale of the development.

102. The Schedule 2 developments include, under the heading of "Extractive Industry":

> "(d) Deep drillings … [when] the area of the works exceeds 1 hectare";

and

> "(e) Surface industrial installations for the extraction of coal, petroleum, natural gas and ores, as well as bituminous shale (when the) area of the development exceeds 0.5 hectare."

I have referred to the inclusion of the latter in Schedule 2 because, in my view, this emphasises that the essence of the development, with which this case is concerned, which warrants its inclusion in Schedule 1 is *the extraction of petroleum for commercial purposes* (above the stipulated amount) and not the surface installations ancillary to this extraction or that it involves deep drilling.

103. The EIA Directive was amended in 2014. These amendments are, in my view, significant for the present case because, as explained in the recitals, they were in part driven by the need for climate change to become one of the "important elements in assessment and decision-making processes". The recitals in the 2014 Directive included:

> "(7) Over the last decade, environmental issues, such as resource efficiency and sustainability, biodiversity protection, climate change, and risks of accidents and disasters, have become more important in policy making. They should therefore also constitute important elements in assessment and decision-making processes";

and:

> "(13) Climate change will continue to cause damage to the environment and compromise economic development. In this regard, it is appropriate to assess the impact of projects on climate (for example greenhouse gas emissions) and their vulnerability to climate change";

and:

> "(31) The environmental impact assessment report to be provided by the developer for a project should include a description of reasonable alternatives studied by the developer which are relevant to that project, including, as appropriate, an outline of the likely evolution of the current state of the environment without implementation of the project (baseline scenario), as a means of improving the quality of the environmental impact assessment process and of allowing environmental considerations to be integrated at an early stage in the project's design."

Neither climate change nor greenhouse gas emissions had expressly featured in the EIA Directive as originally formulated.

104. Planning permission cannot lawfully be granted in respect of developments within Schedule 1 or 2 "unless an EIA has been carried out in respect of that development": regulation 3 of the EIA regulations.

105. An EIA, by article 3(1) of the EIA Directive and regulation 4(2) of the EIA regulations, "*must* identify, describe and assess in an appropriate manner … the direct and indirect effects of a project" on "(c) land, soil, water, air and climate" (my emphasis).

106. Article 5, which deals with the information to be provided by the developer, was amended by the 2014 Directive so as to be more prescriptive as to the information required in an EIA. This is reflected in regulation 18(3) and Schedule 4 of the EIA regulations. Regulation 18(3) provides that an ES must include "at least" certain specified information, such as, at (a), "a description of the proposed development comprising information on the site, design, size and other relevant features of the development" and, at (b), "a description of the likely significant effects of the proposed development on the environment". In addition, the ES must include:

> "(f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected."

107. Schedule 4 of the EIA regulations sets out the "Information for Inclusion in Environmental Statements". These include, at paragraph 5:

> "A description of the likely significant effects of the development on the environment resulting from, inter alia:

> (a) the construction and existence of the development, including, where relevant, demolition works;
>
> …
>
> (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;
>
> The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC and Directive 2009/147/EC."

Paragraph 5(f), which sets out wording added by the 2014 Directive, shows that the "impact of the project on climate" is a specific category of its own which goes beyond the effects from "the construction and existence of the development" and which expressly includes its impact on climate because of "the nature and magnitude of greenhouse gas emissions". The concluding words at the end of paragraph 5 were previously in a footnote and perhaps gain some additional emphasis by being included in the body of this provision: they are *very* broad and, clearly, intentionally very broad.

108. It can be seen, therefore, that the amendments implemented in 2014, for the reasons explained in the recitals, introduced a specific and increased focus on climate change and greenhouse gas emissions and emphasised the breadth of the required "description of the likely significant" direct and indirect effects of a development.

109. An EIA which "is deficient in its lack of a proper assessment of the environmental impacts of … an indirect effect of the proposed development … [is] not compliant with the requirements of the EIA Directive and the EIA regulations": Lindblom LJ, *R. (on the application of Squire) v Shropshire Council* [2019] EWCA Civ 888; [2019] Env. L.R.835, at [69].

110. It is clear, as referred to by the Senior President at paragraph 15(1), "that a broad and purposive approach to the interpretation of the European Union legislation is appropriate". It is also well-established, as noted by Advocate General Kokott in *Abraham v Wallonia* (Case C-2/07) [2008] Env. L.R. 66, at [58], that the EIA Directive "has a very wide scope and a very broad purpose": see also, the judgment of the court in *Abraham*, at [32] and in *Ecologistas en Accion - CODA v Ayuntamiento de Madrid* (Case C-142/07) [2009] PTSR 458, at [28]. This means, as stated by Advocate General Kokott in *Abraham*, at [31], that "the notion of indirect effects is to be construed broadly and in particular includes the effects of the operation of a project".

111. The last point, namely the effects of the operation of a project, was reiterated in the court's judgment in *Abraham*. After repeating, at [42], that "the scope of [the Directive] is wide and its purpose very broad", the court went on to say:

> "[43] It would be simplistic and contrary to that approach to take account, when assessing the environmental impact of a project or of its modification, only of the direct effects of the works envisaged themselves, and not of the environmental impact liable to result from the use and exploitation of the end product of those works.
>
> [44] Moreover, the list laid down … of the factors to be taken into account, such as the effect of the project on human beings, fauna and flora, soil, water, air or the cultural heritage, shows, in itself, that the environmental impact whose assessment Directive 85/337 is designed to enable is not only the impact of the works envisaged but also, and above all, the impact of the project to be carried out."

This broad analysis reflects the broad approach which must be applied to the application of the EIA Directive. As a result, the effects of a development on the environment extend to the effects of the use of the proposed works, such as the use of a modified airport or the use of a refurbished and improved ring road.

112. Mr Willers and Ms Dehon submitted that the equivalent in the present case is "the use and exploitation" of the extracted oil. This is based on that use being the very essence of the development and also being the "commercial" purpose for which it is extracted. Accordingly, they submitted that its "inevitable" combustion is an "impact of the project to be carried out" and that to exclude that effect would similarly be "simplistic and contrary to" a proper application of the wide scope and purpose of the EIA Directive.

113. I recognise, of course, that there are well-established limits to the nature of the court's review when considering whether an administrative decision is legally flawed. I would quote, just by way of example, what Leggatt LJ and Carr J (as they each then were) said in *R. (Law Society) v Lord Chancellor* [2019] 1 W.L.R. 1649, at [98]:

> "The second ground on which the Lord Chancellor's Decision is challenged encompasses a number of arguments falling under the general head of "irrationality" or, as it is more accurately described, unreasonableness. This legal basis for judicial review has two aspects. The first is concerned with whether the decision under review is capable of being justified or whether in the classic Wednesbury formulation it is "so unreasonable that no reasonable authority could ever have come to it": see *Associated Picture Houses Ltd v Wednesbury Corp* [1948] 1 KB 223, 233-4. Another, simpler formulation of the test which avoids tautology is whether the decision is outside the range of reasonable decisions open to the decision-maker: see e.g. *Boddington v British Transport Police* [1998] UKHL 13; [1999] 2 AC 143, 175 (Lord Steyn). The second aspect of

> irrationality/unreasonableness is concerned with the process by which the decision was reached. A decision may be challenged on the basis that there is a demonstrable flaw in the reasoning which led to it – for example, that significant reliance was placed on an irrelevant consideration, or that there was no evidence to support an important step in the reasoning, or that the reasoning involved a serious logical or methodological error. Factual error, although it has been recognised as a separate principle, can also be regarded as an example of flawed reasoning – the test being whether a mistake as to a fact which was uncontentious and objectively verifiable played a material part in the decision-maker's reasoning: see *E v Secretary of State for the Home Department* [2004] EWCA Civ 49; [2004] QB 1044."

Facts

114. In its scoping opinion, the county council recommended, at paragraph 3.14:

> "Given the nature of the proposed development, which is concerned with the production of fossil fuels, the use of which will result in the introduction of additional greenhouse gases into the atmosphere, it is recommended that the submitted EIA include an assessment of the effect of the scheme on the climate. That assessment should consider, in particular, the global warming potential of the oil and gas that would be produced by the proposed well site"."

115. The environmental statement ("the ES") produced by Horse Hill Developments stated in the section dealing with "Greenhouse Gas Emissions and The Climate", at paragraph 107, that:

> "The scope of the assessment is confined to the direct releases of greenhouse gases from within the well site boundary resulting from the site's construction, production, decommissioning and subsequent restoration over the lifetime of the proposed development."

The fact that the ES was only dealing with "direct releases of greenhouse gases from within the well site" was explained as follows:

> "121. The assessment considers direct releases of greenhouse gases consistent with all phases of the proposed development as described in detail within ES Chapter 4. The essential character of the proposed development is the extraction and production of hydrocarbons and does not extend to their subsequent use by the facilities and process beyond the planning application boundary and outwith the control of the site operators.
>
> 122. The assessment methodology pays regard to national planning policy and guidance that establishes that decision-

> makers should 'focus on whether the development is an acceptable use of land, rather than on control of processes or emissions where these are subject to approval under pollution control regimes'. These non-planning regimes regulate hydrocarbon development and other downstream industrial processes and decision-makers can assume that these regimes will operate effectively to avoid or mitigate the scope for material environmental harm."

116. It can be seen, first, that greenhouse gas emissions, other than those released "from within the well site boundary", are wholly excluded from the assessment. Secondly, the reasons for this are set out in paragraphs 121 and 122 and comprise two or three elements. The first reason, or the first two reasons, as set out in paragraph 121, are based on the "essential character of the proposed development [being] the extraction and production of hydrocarbons". As a result, the proposed development "does not extend to [the] subsequent use" of those hydrocarbons because that use (a) is by "facilities and process beyond the planning application boundary" and (b) is "outwith the control of the site operators". The second or third reason is set out in paragraph 122. Here the justification for confining the assessment to direct releases is that "decision-makers can assume" that other non-planning, pollution control, regimes "will operate effectively to avoid or mitigate the scope for material environmental harm".

117. The ES was reviewed by the county council, as referred to by the Senior President at paragraph 20. Dr Salder concluded:

> "5.15 The assessment presented in the submitted ES focusses on the direct greenhouse gas emissions of the development and operation of the proposed wellsite. The potential contribution of the hydrocarbons that would be produced over the lifetime of the wellsite is not covered in the submitted ES, the reasons for excluding those emissions are set out in paragraphs 121 and 122 … of the submitted ES. The [county council] accepts the argument set out in paragraphs 121 and 122 … of the submitted ES and the justification provided for excluding consideration of the global warming potential of the produced hydrocarbons from the scope of the EIA process."

It can be seen that the county council accepted that the reasons given in the ES justified the absence of any assessment of the impact on climate of the greenhouse gas emissions which would be produced through the use of the oil extracted at the site. This must mean that it was accepted, for the reasons given in paragraphs 121 *and* 122, that these emissions did not comprise indirect or secondary effects of the development within the scope of paragraph 5 of Schedule 4 of the EIA regulations.

118. The officers' report stated:

> "97. Greenhouse gas emissions and the climate – the question of the direct impacts of the proposed development on emissions of greenhouse gases and associated climate change is addressed in chapter 6 of the submitted ES. The question of the

> development's impact on climate change and global atmospheric composition is discussed in greater detail in paragraphs 102 to 162 of this report. On balance, and having taken account of the information and evidence submitted by all parties with an interest in the determination of the current planning application, the CPA has concluded that the proposed development would not give rise to significant impacts on the climate as a consequence of the emissions of greenhouse gases directly attributable to the implementation and operation of the scheme."

Again, it can be seen that the extent of the assessment is on the "direct impacts of the proposed development on emissions and associated climate change". The paragraphs mentioned, 102 to 162, do not, as suggested, in fact contain any further assessment "of the development's impact on climate change". We are, therefore, taken back to, and left with, the reasons given in chapter 6 "of the submitted ES", namely paragraphs 121 and 122 as set out above.

119. In summary, I repeat, it is clear that the county council's decision was based on the conclusion that the greenhouse gas emissions which would be produced through the use of the oil extracted at the site were not effects of the development.

The judgment of Holgate J

120. At the outset of his judgment, Holgate J set out the nature of the dispute:

> "The ES assessed the GHG that would be produced from the operation of the development itself. However, this challenge concerns the non-assessment by the ES of the GHG that would be emitted when the crude oil produced from the site is used by consumers, typically as a fuel for motor vehicles, after having been refined elsewhere. The issue … arises in a very striking manner in the present case. It is agreed that once the crude oil produced from the development is transported off site it enters, in effect, an international market and the refined end product could be used anywhere in the world, far removed from the Surrey Weald."

121. I also set out, what I regard as being, two key findings made by Holgate J. First, he found:

> "[69] It is not possible to say at this stage where the oil produced would be refined or subsequently used. It could be refined and used in the United Kingdom or exported and then refined and used abroad. It might be refined overseas and then imported back into the UK."

Secondly, he set out, at paragraph 100, that it was:

> "common ground [that] it is *inevitable* that oil produced from the site will be refined and, as an end product, will eventually

> undergo combustion, and that that combustion will produce GHG emissions." (my emphasis)

122. In paragraphs 127 to 133, Holgate J set out his reasons for concluding, that "the reasons accepted in SCC's review of the ES" (namely, paragraphs 121 and 122) "for not requiring an assessment of GHG from the combustion of refined oil products", did not disclose an error of law. I set out his analysis of the reasons adopted by the county council in full:

> "[128] … In summary, HHDL stated and SCC accepted that the essential character of the proposed development of the site is for the extraction and production of hydrocarbons. The character of that land use did not include subsequent processing, distribution, sale and consumption of end products.
>
> [129] The ES went on to refer to national policy stating that the planning system should focus on land use issues rather than the control of process or emissions for which there are other specific regulatory regimes. This part of the reasoning was based upon inter alia paragraph 183 of the NPPF and case law such as *Gateshead Metropolitan Borough Council v Secretary of State for the Environment* [1994] Env. L.R. 37 and *R (An Taisce, the National Trust for Ireland) v Secretary of State for Energy and Climate Change* [2013] EWHC 4161 (Admin); [2015] PTSR 189, summarised by Gilbart J in *R (Frack Free Balcombe Residents Association) v West Sussex County Council* [2014] EWHC 4108 (Admin). Paragraph 122 of the ES makes it clear that it was only referring to "hydrocarbon development and other downstream industrial processes" as being regulated by pollution control regimes. In other words, this passage in the ES explained why no assessment was being made of emissions from, for example, oil refineries. Likewise, the reference at the end of paragraph 121 to "facilities and process" beyond the site boundary and outwith HHDL's control should be understood in that same sense. It is plain that the ES did not rely upon lack of control or the existence of other regulatory regimes to justify the non-assessment of GHG from the combustion of refined oil products. The same applies to SCC's acceptance of that reasoning in paragraphs 121 to 122 of the ES.
>
> [130] The claimant's challenge does not relate to the non-assessment of GHG emissions once the crude oil has left the site, except for those arising from the consumption of the end products. There is no challenge to the non-assessment in the ES of GHG from, for example, the process of refining. Accordingly, once paragraphs 121 to 122 of the ES are read properly, the criticism made of the reliance placed upon lack of control and alternative regulatory regimes falls away.

> [131] We are left with the real reason given in paragraph 121 of the ES and paragraph 5.15 of the ES Review for non-assessment of GHG emissions from the use of refined oil products. This was that the essential character of the proposed development is the extraction and production of crude oil, and not the subsequent process of refining the crude oil at separate locations remote from Horse Hill, followed by the use of infrastructure and/or transport for the distribution of the end products, whether in the UK or elsewhere in the world. That explanation is sufficient to deal with any suggestion of irrationality. But it is further supported by the broad thrust of the elucidation of her contemporaneous thinking (as it was described by Mrs Townsend for SCC at the hearing) in paragraphs 15 to 31 of Dr Salder's witness statement."

123. As can be seen, Holgate J considered that, "read properly", the ES "did not rely upon lack of control or the existence of other regulatory regimes to justify the non-assessment of GHG from the combustion of refined oil products". The "real reason" for the non-assessment was "that the essential character of the proposed development is the extraction and production of crude oil".

Conclusion

124. I do not propose to repeat the submissions made on behalf of the parties as these are summarised in the Senior President's judgment.

125. The development in this case is one which requires an EIA because it involves the extraction of petroleum for commercial purposes in an amount which exceeds that stipulated in the EIA Directive and the EIA regulations (paragraph 14 of Schedule 1). The specific features, therefore, of this type of development which warrant its inclusion in Schedule 1 (and Annex I) are the volume of petroleum/oil which will be extracted and that it is extracted for commercial purposes. I appreciate, of course, that the scale of a development may well reflect the volume of oil being extracted but, as referred to above, "Surface industrial installations for the extraction of coal, petroleum, natural gas and ores, as well as bituminous shale", when the "area of the development exceeds 0.5 hectare", are included separately within Schedule 2, as are "Deep drillings" when "the area of the works exceeds 1 hectare".

126. Although this case is, of course, concerned with planning permission for what Holgate J referred to, at [128], as "land use", the critical elements of that use in the present case are, as referred to above, the extraction of oil and its extraction for commercial purposes. As is made clear in *Abraham*, at [45], the EIA is designed to take into account "not only the impact of the works envisaged but also, and *above all*, the impact of the project to be carried out" (my emphasis). The relevant question, in my view, is what is the impact of the extraction of oil for commercial purposes?

127. The key elements of the present development, the "Extraction" of "petroleum" exceeding 500 tonnes per day for "commercial purposes", have to be considered together with the obligation, set out in paragraph 5 of Schedule 4, to describe the development's impact on climate including, expressly, "the nature and magnitude of greenhouse gas emissions". When these elements are viewed collectively, in my

view, applying the requisite broad and purposive approach, they point strongly towards the impact of the development, or an effect of the development, being the greenhouse gas emissions resulting from the "inevitable" commercial use of the oil. Accordingly, I consider that there is significant force in the submission that the use of the extracted oil in the present case is to be equated with the use of a modified airport (*Abraham*) or of an improved urban ring road (*Ecologistas*) or of a discharge pipe (as in *R. (on the application of Preston) v Cumbria County Council* [2019] EWHC 1362 (Admin); [2020] Env. L.R. 3).

128. That is why, in respectful disagreement with what the Senior President says at paragraph 47, I do not consider that the "end product" of the development in this case is confined to, or even focused on, "the operational well site, its use and its eventual restoration". The focus of this development is not "construction works" or "other installations", as referred to in article 1(2)(a) of the EIA Directive, but is an intervention involving the "Extraction of petroleum" for "commercial purposes". The key nature of the development, its essential character, is the extraction of oil for commercial purposes. That *is* the project. In my view, the relevant or applicable "outcome" (as referred to by the Senior President in paragraphs 46 and 47) of the extraction of oil for commercial purposes is the use of that oil.

129. Although I do not go as far as concluding that, as a matter of law, such emissions are necessarily required to be assessed in an EIA. There might be reasons why, in the particular circumstances of a development, they do not have an impact on climate. I, therefore, agree with the Senior President and Lewison LJ that it is a matter to be determined by the county council. However, having regard to what I see as being the context of this case as set out above, it seems to me that cogent reasons would be required to exclude from assessment, the inevitable effects (the greenhouse gas emissions) of the downstream use of the oil.

130. Against that background, I now turn to explain why I have concluded that the reasons given by the county council, for deciding that such emissions were not an effect of this development, were legally flawed.

131. First, I do not agree with Holgate J's analysis of those reasons. Essentially, he decided, as referred to above, that there was only one reason, namely "the essential character of the proposed development". I read paragraphs 121 and 122 differently and, as set out above, in my view they contain two or three reasons.

132. As to paragraph 122, I also respectfully differ from the Senior President's analysis in paragraph 87. In my view, paragraph 122 contains a distinct factor relied on by the county council as supporting the assessment being confined to direct releases of greenhouse gases from the site. Paragraph 5.15 of the Environmental Review Statement refers to both paragraphs as containing "the justification … for excluding consideration of the global warming potential of the produced hydrocarbons from the scope of the EIA process".

133. The reason advanced in paragraph 122 is factually inaccurate and does not provide the suggested justification. This is because there was no factual basis for the county council, as the decision-maker, to "assume that [non-planning regimes] will operate effectively to avoid or mitigate the scope for material environmental harm". As set out in Holgate J's judgment, I repeat:

> "[69] It is not possible to say at this stage where the oil produced would be refined or subsequently used. It could be refined and used in the United Kingdom or exported and then refined and used abroad. It might be refined overseas and then imported back into the UK."

134. The reasons contained in paragraph 121 comprise (a) the fact that what happens to the oil is "outwith the control of the Site operators" and (b) the fact that the development does not include "the subsequent use" of the oil "beyond the planning application boundary". I also consider that these reasons are legally flawed.

135. First, I do not consider that the question of whether something is or is not an effect of a development, particularly in respect of climate change, depends on whether it is "outwith the control of the Site operators". The issue is not one of control but of the effects of a development which may well be outside the control of the developer.

136. Secondly, I also do not consider that the fact that the oil will be processed and used by others outside the site boundary means that that use is not an effect of the extraction of the oil. Petroleum and natural gas once extracted will always require processing before they can be used and, in my view, it would be surprising if that fact alone meant that no EIA was required in respect of downstream greenhouse gas emissions. To exclude them for that reason would not, in my view, resonate with the CJEU's approach in *Abraham*, at [43]. Adapted to this case, I consider that it would be contrary to the wide scope and broad purpose of the EIA Directive not to assess the environmental impact which will *inevitably* result from the use and exploitation of the extracted oil simply because it will be processed by others at a different location.

137. In my view, as submitted by Mr Brown, Holgate J was wrong when he considered that, at [131], the "essential character of the proposed development" and, at [132], the nature of "the land use" supported the county council's decision not to require an assessment of the greenhouse gas emission which would be caused by the use of the extracted oil. First, even if the essential character is correctly described as "the extraction and production of crude oil", I do not consider that this means that the subsequent use of the oil, once refined, cannot be an effect of the development. Further, as referred to above, I would describe the essential character of the development as being (a) the extraction of oil and (b) its extraction *for* commercial purposes.

138. In my view, for the reasons given above, it would require cogent reasons to exclude from assessment the environmental effects, including "on climate", of the manner in which the oil will be used when that is the commercial purpose of its extraction. The subsequent process of refining and the subsequent combustion do not, as the county council considered and Holgate J determined, provide justification for the non-assessment of greenhouse gas emissions. On the contrary, the oil's refinement and combustion are, in the present case, the commercial purpose of its extraction and provide justification for such an assessment. In other words, I do not consider that the effects of the extraction of the oil for commercial purposes stop at or with its extraction or with its processing at a refinery somewhere in the world. A broad, purposive approach to the interpretation of the provisions applicable in this case points strongly towards their application not being so limited. As Mr Brown submitted, it is not difficult to describe the combustion of material obtained from a

development whose sole purpose is to obtain that material for combustion as being an environmental effect of the development.

139. Accordingly, I have come to a different conclusion to that set out by the Senior President in paragraph 85. In my view, applying the same analysis, the reasons adopted by the county council do not support the conclusion that "scope 3" emissions were not indirect effects of the proposed development. They do not support the conclusion that "the necessary causal connection between the proposed development and the impact of 'scope 3' greenhouse gas emissions was absent in this case". In my view, adopting words from *R. (Law Society) v Lord Chancellor*, the decision to exclude from assessment all but the direct releases of greenhouse gas emissions from within the well site boundary was based on demonstrable flaws in the reasoning such that the decision is legally flawed. Putting it another way, the fact that the EIA failed to identify, describe and assess the "scope 3" or "downstream" greenhouse gas emissions which *will* be produced through the commercial use of the oil extracted from the well site means that the EIA failed to assess the relevant and required effects of the proposed development. As a result, the EIA does not comply with the requirements of the EIA regulations and planning permission cannot lawfully be given.

140. In conclusion, for the reasons set out above, I would allow the appeal.

Lord Justice Lewison:

141. I agree with the Senior President of Tribunals:

i) That the judge did not misinterpret the scope of "the project";

ii) That the "true legal test" proposed by the judge was not a legal test at all, and that the real question is the degree of connection needed to link a "project" and a putative "effect";

iii) That it is not appropriate to introduce a non-statutory gloss (such as "reasonably foreseeable") to express that degree of connection;

iv) That the downstream greenhouse gas emissions were not "legally incapable" of being indirect effects of the project;

v) That whether there is a sufficient degree of connection between the two is a question of fact (or evaluative judgment) for the decision maker; and

vi) The decision-maker's decision can only be impugned on public law grounds (which include, but are not limited to, irrationality).

142. What I have found more difficult is the question whether the decision that Surrey CC in fact took was a lawful one.

143. In Chapter 4 paragraph 107 of the environmental assessment prepared by the developer they said:

> "The scope of the assessment is confined to the direct releases of greenhouse gases from within the wellsite boundary resulting from the Site's construction, production, decommissioning and subsequent restoration over the lifetime of the proposed development."

144. The statement went on to say:

> "121. This assessment considers direct releases of greenhouse gases consistent with all phases of the proposed development as described within ES Chapter 4. The essential character of the proposed development is the extraction and production of hydrocarbons and does not extend to their subsequent use by facilities and processes beyond the planning application boundary and outwith the control of the Site operators.
>
> 122. The assessment methodology pays regard to national planning policy and guidance that establishes that decision-makers should "*focus on whether the development is an acceptable use of land, rather than on control of processes or emissions where these are subject to approval under pollution control regimes*". These non-planning regimes regulate hydrocarbon development and other downstream industrial processes and decision-makers can assume that these regimes will operate effectively to avoid or mitigate the scope for environmental harm."

145. In its assessment of that statement Surrey CC said:

> "5.15 The assessment presented in the submitted ES focuses on the direct greenhouse gas emissions of the development and operation of the proposed wellsite. The potential contribution of the hydrocarbons that would be produced over the lifetime of the wellsite is not covered in the submitted ES, the reasons for excluding those emissions are set out in paragraphs 121 and 122 … of the submitted ES. The CPA accepts the argument set out in paragraphs 121 and 122 … of the ES and the justification for excluding consideration of the global warming potential of the produced hydrocarbons from the scope of the EIA process."

146. On one reading of that assessment it might be said that Surrey CC had considered direct effects only and had ignored any potential indirect effects. But that assessment must be seen in the overall context of the decision-making process.

147. The starting point is Surrey CC's scoping opinion. That scoping opinion expressly considered the question of downstream greenhouse gas emissions; and recommended that the EIA should "consider … the global warming potential of the oil and gas that would be produced by the proposed well site". It is clear, therefore, that Surrey CC had not lost sight of the possibility that downstream greenhouse gas emissions might be an indirect effect of the project. The eventual assessment must be read against that background. Given that the direct effects of the project had been considered in

Chapter 4 of the ES, the first sentence of paragraph 121 must be read as a reference back to that consideration. Accordingly, the second sentence of that paragraph must refer to potential indirect effects. Particular emphasis is placed on subsequent use outwith the control of the developers. That a potential effect is outwith the control of the developers is not, in my judgment, determinative, but it is, I think, relevant. So, too, is the fact that a potential effect takes place outside the site, although once again it is not determinative.

148. In addition, the officers' report presented to the planning committee referred to the Surrey Minerals Plan Core Strategy Development Plan Document 2011. In paragraph 112 of the report officers stated that the policy was that proposals for the commercial production of oil and gas would only be permitted where "there are no significant adverse impacts associated with extraction and processing, *including processing facilities remote from the wellhead* and transport of the product." The report went on to discuss the question of climate change in some detail. Paragraphs 134 and 135 recorded objections to the proposed development based on climate change grounds. Again, it cannot be said that climate change considerations were ignored. Balanced against climate change, however, was the question of need for hydrocarbons. Officers devoted a lengthy section of the report to that question. Their ultimate conclusion (in the updated report presented to the committee) was that:

> "… subject to the imposition of conditions, together with controls through other regulatory regimes, the development would not give rise to unacceptable environmental or amenity impacts and the development is consistent with the NPPF and the development plan…"

149. On balance, I consider that when these various documents are read together, it cannot be said that Surrey CC completely ignored the potential global warming effect of the proposed development. The question was raised by the scoping opinion, objections based on climate change were noted and considered; the development plan document explicitly referred to adverse impacts resulting from processing remote from the wellhead, and officers' overall conclusion was both that the development was consistent with the development plan and also that it would not give rise to unacceptable environmental impacts. Whether the downstream greenhouse gas emissions were or were not to be regarded as indirect effects of the project was a question of judgment for Surrey CC. Although it would have been preferable for more explicit consideration to have been given to that question, I have concluded (not without hesitation) that the reasons just about pass muster.

150. Accordingly, I agree with the Senior President that the appeal should be dismissed.