

The Lighthouse Green Fuels Order

Application Reference: EN0110025

Applicant: LGF Projects Limited

Environmental Statement Volume I Chapter 1: Introduction

Document Reference: 6.1.1

Revision: 00

APFP Reg. 5(2)(a) and EIA Reg. 14

Document information

Document Title	ES Chapter 1: Introduction
Document Ref	6.1.1
Author	Arup

Revision record

00	Purpose	DCO Application Submission
	Date	September 2026

Information classification

Information Classification	Date	Reason
Public	September 2026	Proprietary information which will have no impact on the company if disclosed publicly

Contents

Abbreviations	1
1 Introduction	2
1.1 Background	2
1.2 The Applicant.....	2
1.3 Overview of the Proposed Development.....	2
1.4 The Development Consent Process	4
1.5 Environmental Impact Assessment and the Purpose of the ES.....	5
Requirement for EIA.....	5
The EIA Scoping Process.....	5
Preliminary Environmental Information Report	6
Environmental Statement	7
1.6 Structure of the ES	8
1.7 Consultation	10
1.8 Competent Experts.....	12
References	13

Tables

Table 1.1	Location of Information required by Regulation 14(2) within this ES	7
-----------	---	---

Abbreviations

Abbreviation	In Full / Term
PA 2008	Planning Act 2008
CHP	Combined Heat and Power
DCO	Development Consent Order
EIA	Environmental Impact Assessment
The EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
ES	Environmental Statement
MW	megawatt
MWe	megawatt electrical
NSIP	Nationally Significant Infrastructure Project
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
SAF	Sustainable Aviation Fuel
SoCC	Statement of Community Consultation
SoS	Secretary of State

1 Introduction

1.1 Background

- 1.1.1 This Environmental Statement (ES) has been prepared by Ove Arup and Partners Ltd (Arup) on behalf of LGF Projects Limited (the Applicant) to support an application (the Application) seeking development consent for the construction, operation, maintenance and decommissioning of the Lighthouse Green Fuels project on land at Stockton-on-Tees and Redcar and Cleveland on Teesside (the Proposed Development).
- 1.1.2 The Application has been submitted to the Planning Inspectorate (PINS) and the decision whether to grant a Development Consent Order (DCO) will be made by the relevant Secretary of State (SoS) pursuant to the Planning Act 2008 (PA 2008) [Ref 1]. At the time of writing, this is the SoS for Energy Security and Net Zero.
- 1.1.3 This ES presents the findings of the Environmental Impact Assessment (EIA) that has been undertaken for the Proposed Development in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) [Ref 3]. This includes:
- a description of the Proposed Development;
 - the likely significant environmental effects of its construction, operation and decommissioning;
 - measures to avoid or reduce such effects; and
 - alternative sites, technologies and layouts considered.

1.2 The Applicant

- 1.2.1 The Applicant is wholly owned by Alfanar Energy Limited (Alfanar). Alfanar is part of a global project development, manufacturing and engineering group headquartered in Saudi Arabia. Alfanar has developed significant in-house feedstock-to-sustainable aviation fuel expertise. This experience will be used to construct and operate the Proposed Development.

1.3 Overview of the Proposed Development

- 1.3.1 The Proposed Development is anticipated to be the first commercial-scale second-generation Sustainable Aviation Fuel (SAF) production facility to be constructed in the UK and would comprise the following key elements (the Specified Elements):
- feedstock reception and storage;
 - feedstock pre-treatment facility;

- SAF production facility (producing SAF and renewable naphtha); and
 - product processing, storage and export pipelines.
- 1.3.2 To support the SAF production facilities, the following ancillary or associated operations are required and are included in the DCO as associated development:
- marine transport infrastructure (quay) for both construction and operational (feedstock import) purposes; and
 - installation of pipelines for utilities (such as industrial gases) and product export to third party facilities.
- 1.3.3 The Proposed Development will be located on land at Seal Sands Road, Seal Sands, Stockton-on-Tees, Teesside, TS2 1UB. The location of the Proposed Development is shown in **Figure 1.1: Site Location Plan (ES Volume II, Application Document Ref. 6.2)**. The Proposed Development Site (the Site) and its surroundings are described in **Chapter 3: The Site and Surrounding Area (ES Volume I, Application Document Ref. 6.1)** and a description of the Proposed Development is provided in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)**.
- 1.3.4 The Proposed Development includes the construction, operation, maintenance and eventual decommissioning of a commercial-scale facility that will produce more than 180 million litres of advanced SAF and approximately 30 million litres of renewable naphtha each year from sustainably sourced biomass feedstock (in accordance with the requirements of the SAF Mandate [Ref 6]). To support operations, the Proposed Development will include a biomass and waste wood-fired combined heat and power (CHP) plant with an electrical output capacity of up to 200 megawatts electrical (MWe), ensuring a low-carbon energy supply for the SAF process. Definitions of the terms 'biomass' and 'waste wood' as used throughout the Application documents are provided in the **Project Glossary (ES Volume I, Application Document Ref. 6.1)**.
- 1.3.5 Feedstock will be stored and pre-treated on site before being processed into SAF. The process will also produce renewable naphtha for use as a chemical feedstock.
- 1.3.6 The Proposed Development will include the development of a new quay on the River Tees to allow the delivery of modular plant and construction materials by ship during construction and biomass and waste wood feedstock during operation, reducing road transport and associated emissions.

- 1.3.7 Connections will provide natural gas for start-up and operation, water for processing, and oxygen and nitrogen from existing pipelines. Alternatively, a new air separation unit may be built on the Site for production of oxygen and nitrogen.
- 1.3.8 Finished products will be transferred via pipelines to local marine loading facilities for export by ship or by road. Waste materials, including off-specification materials will also be exported by road. Industrial effluent will be sent to Bran Sands Wastewater Treatment Plant by pipeline for potential treatment (if required) and discharge via the proposed Long Sea Outfall which is expected to be operational before the Proposed Development commences.

1.4 The Development Consent Process

- 1.4.1 The CHP plant will have an electrical output capacity of up to 200 MWe, with additional steam production, and therefore is a Nationally Significant Infrastructure Project (NSIP) in its own right, as it is above the 50-megawatt (MW) threshold for generating stations defined in Section 15 of the PA 2008. The CHP plant is also included in the DCO application given its direct relationship to the main development.
- 1.4.2 A request for a direction under Section 35 of the PA 2008 was sent to the SoS for Energy Security and Net Zero on 12 August 2025, to formally request that the Specified Elements of the Proposed Development should be treated as development for which development consent under the PA 2008 is required.
- 1.4.3 The SoS issued a direction on 8 September 2025 which confirmed that the Specified Elements, together with any matters/development associated with them, are to be treated as development for which development consent is required.
- 1.4.4 Applications for development consent under the PA 2008 are submitted to and examined by the Planning Inspectorate and determined by the SoS. This ES accompanies the Application for the DCO, which would consent the Proposed Development.
- 1.4.5 In addition to development consent, a marine licence is required for the carrying out of any licensable marine activity under the Marine and Coastal Access Act 2009. Marine licences can be deemed under a DCO for licensable activities in English waters.
- 1.4.6 Consent is therefore required from the SoS by way of a DCO, including a deemed marine licence. This has the effect of granting development consent for the Proposed Development and may include the modification or disapplication of other consents and authorisations.

- 1.4.7 This Application for development consent for the Proposed Development has been submitted to PINS acting on behalf of the SoS. Subject to acceptance, PINS will examine the Application and make a recommendation to the SoS who will decide whether to grant a DCO.

1.5 Environmental Impact Assessment and the Purpose of the ES Requirement for EIA

- 1.5.1 The process and content of an EIA is summarised in Regulation 5 of the EIA Regulations [Ref 3]. Central to the process is the preparation of the ES and the carrying out of associated procedural steps, including consultation, publicity and notification.
- 1.5.2 The Proposed Development involves the construction and operation of a SAF production facility with associated CHP plant and constitutes EIA development in part because the on-site biomass and waste wood fuelled CHP plant of up to 200MWe is covered under Schedule 2 of the EIA Regulations (2017) under 3(a) "*Industrial installations for the production of electricity, steam and hot water - if exceeding 0.5ha*". As the Proposed Development requires development consent pursuant to the PA 2008, the processes set out, and documents stated within The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) [Ref 2] must be followed and prepared. This includes "*the environmental statement required [...] and any scoping or screening opinions or directions*".
- 1.5.3 A notification under Regulation 8 of the EIA Regulations [Ref 3] was submitted to the SoS along with the EIA Scoping Report and confirmed that the Applicant intended to submit an application for development consent, which will include an ES.

The EIA Scoping Process

- 1.5.4 The Applicant has notified the SoS in writing under Regulation 8(1)(b) of the EIA Regulations [Ref 3] that it intends to provide an ES in respect of the Proposed Development. The Proposed Development is therefore an 'Environmental Impact Assessment (EIA) development' for the purposes of the EIA Regulations and an ES will form part of the Application.
- 1.5.5 The purpose of the EIA scoping process is to determine which topics should be included in the EIA, and the level of detail to which they should be assessed. An EIA Scoping Report together with a request for an EIA Scoping Opinion pursuant to Regulation 10 of the EIA Regulations was submitted to PINS on 1 October 2025.

1.5.6 The EIA Scoping Report (**Appendix 2A: Scoping Report, ES Volume III, Application Document Ref. 6.3**) was developed with reference to standard guidance and good industry practice. It was informed by the EIA team's experience of working on a number of similar industrial projects. The EIA Scoping Report set out:

- details of the Proposed Development;
- a summary of alternatives considered;
- a summary of existing and future baseline conditions;
- an outline of the likely significant environmental effects of the Proposed Development;
- a description of the matters to be scoped in and out of the EIA;
- proposed assessment methods; and
- the proposed structure of the ES.

1.5.7 The EIA Scoping Opinion was received on 11 November 2025 and is presented within **Appendix 2B: Scoping Opinion Responses (ES Volume III, Application Document Ref. 6.3)**. The matters raised have been reviewed and taken into consideration in the relevant technical assessments. Further details on the EIA Scoping Opinion are set out in **Chapter 2: Assessment Methodology (ES Volume I, Application Document Ref. 6.1)**.

[Preliminary Environmental Information Report](#)

1.5.8 The EIA for a DCO Application is reported in two stages:

- Stage 1: a Preliminary Environmental Information Report (PEIR) is prepared to inform consultation with the public and other stakeholders about the likely environmental effects of the Proposed Development, based on the preliminary environmental information available at the time of consultation; and
- Stage 2: an ES is prepared to accompany the Application.

1.5.9 Following the completion of the EIA Scoping Process, a PEIR was published on 2 December 2025 for formal (statutory) consultation (pursuant to Sections 42, 47 and 48 of the PA 2008) on the Proposed Development in December 2025. The consultation was undertaken to satisfy the requirements of Regulation 12(2) of the EIA Regulations, the purpose of which is to enable consultation bodies to develop an informed view of the likely significant environmental effects of the development (and any associated development).

- 1.5.10 A PEIR addendum was published on 13 April 2026 in relation to refinements to the Site boundary for targeted consultation (pursuant to Section 42 of the PA 2008). This comprised formal consultation with prescribed persons and bodies and non-statutory consultation targets to certain prescribed consultees to further develop an informed view of the likely significant environmental effects of the changes to the development since publication of the PEIR.

Environmental Statement

- 1.5.11 This ES is submitted as part of the suite of documents accompanying the Application. The information presented in the ES describes the findings of the EIA. The EIA adopts a reasonable-worst-case assessment basis, based on the Proposed Development design and adopting the 'Rochdale Envelope' approach wherever specific parameters cannot yet be fixed for the Proposed Development as set out in PINS pre-application advice [Ref 5]. These parameters are described further in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)**.
- 1.5.12 Regulation 14(2) describes the requirements of an ES. Table 1.1 identifies where the information defined by Regulation 14(2) can be found within the ES.

Table 1.1 Location of Information required by Regulation 14(2) within this ES

Specified Information	Location within ES
a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;	Chapter 3: Site and Surrounding Area, Chapter 4: Proposed Development, Chapter 5: Construction Programme and Management and Chapter 6: Alternatives (ES Volume I, Application Document Ref. 6.1) , alongside supporting figures and appendices to these chapters found within ES Volume II (Application Document Ref. 6.2) and ES Volume III (Application Document Ref. 6.3) .
b) a description of the likely significant effects of the proposed development on the environment;	Chapters 8 to 21, within the Section discussing 'Likely Impacts and Effects of the Proposed Development' (ES Volume I, Application Document Ref. 6.1).
c) a description of any features 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;	Chapter 4: Proposed Development and Chapters 8 to 21 (ES Volume I, Application Document Ref. 6.1) , within the Sections discussing the 'Development Design and Impact Avoidance' and 'Mitigation and Enhancement Measures'.
d) a description of the reasonable alternatives studied by the applicant, which are relevant to	Chapter 6: Alternatives (ES Volume I,

Specified Information	Location within ES
the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;	Application Document Ref. 6.1).
e) a non-technical summary of the information referred to in subparagraphs (a) to (d); and	Non-Technical Summary (ES Volume IV, Application Document Ref. 6.4).
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.	Baseline conditions relevant to each assessment are described in Chapters 8 to 21, within the Section 'Baseline Conditions' (ES Volume I, Application Document Ref. 6.1). Assessment methods are described in Chapter 2: Assessment Methodology (ES Volume I, Application Document Ref. 6.1) and Chapters 8 to 21, within the 'Assessment Methodology and Significance Criteria' Sections (ES Volume I, Application Document Ref. 6.1). Any limitations and/or difficulties with the assessments are described in Chapters 8 to 22, within the 'Limitations or Assumptions' Section (ES Volume I, Application Document Ref. 6.1).

1.6 Structure of the ES

1.6.1 The structure of this ES reflects the assessment topics agreed through the EIA Scoping process.

1.6.2 Volume I of the **ES (Application Document Ref. 6.1)** is structured into the following chapters:

- Chapters 1 and 2 provide an introduction to the ES and the EIA approach;
- Chapters 3 to 6 provide a description of the Proposed Development together with information on construction methods, timescales and alternatives;
- Chapter 7 provides a summary of the planning and energy policy of relevance to the Proposed Development;
- Chapters 8 to 21 provide an assessment of the likely significant effects of the Proposed Development in relation to the environmental topics scoped into the EIA;

- Chapter 22 provides an assessment of cumulative effects associated with the environmental topics scoped into the EIA.
 - Chapter 23 provides a summary of likely significant environmental effects identified by the EIA.
- 1.6.3 The **Project Glossary (Application Document Ref. 6.1)** provides definitions of project-specific terms, abbreviations and acronyms used throughout the Application.
- 1.6.4 Volumes II and III of the ES (**Application Document Refs. 6.2 and 6.3**) comprise the technical appendices and figures that accompany each chapter of Volume I (**Application Document Ref. 6.1**).
- 1.6.5 **Appendix 23A: Commitments Schedule (ES Volume III, Application Document Ref. 6.3)** provides a summary of commitments relevant to the EIA and how these are proposed to be secured.
- 1.6.6 Volume IV is a separate document which has been prepared to provide a **Non-Technical Summary (ES Volume IV, Application Document Ref. 6.4)** of the ES.
- 1.6.7 ES Volume III (**Application Document Ref. 6.3**) includes the following outline management plans:
- Appendix 5A: Framework Construction Environmental Management Plan;
 - Appendix 5B: Framework Site Waste Management Plan;
 - Appendix 13C: Framework Lighting Strategy;
 - Appendix 18D: Framework Construction Traffic Management Plan; and
 - Annex C: Framework Construction Workers' Travel Plan appended to Appendix 18A: Transport Assessment.
- 1.6.8 The Application is also accompanied by a number of other reports and statements that this ES references and which should be read in conjunction with it, including:
- Other Consents and Licences Statement (**Application Document Ref. 5.4**);
 - Statutory Nuisance Statement (**Application Document Ref. 5.5**);
 - Flood Risk Assessment (**Application Document Ref. 5.7**), which includes a Framework Drainage Strategy;

- Framework Landscape and Biodiversity Management and Enhancement Strategy (**Application Document Ref. 5.8**);
- Nutrient Neutrality Assessment (**Application Document Ref. 5.9**);
- Water Environment Regulations Assessment (**Application Document Ref. 5.10**); and
- Report to Inform Habitats Regulations Assessment (**Application Document Ref. 5.11**).

1.7 Consultation

1.7.1 Consultation is integral to the preparation of DCO applications and to the EIA process. The views of consultation bodies serve to focus the environmental studies and to identify specific issues requiring further investigation and to inform the design of the Proposed Development. Communities may also provide local information of relevance to the assessment.

1.7.2 The PA 2008 requires applicants for development consent to undertake formal (statutory) pre-application consultation on their proposals. There are a number of requirements as to how this consultation must be undertaken that are set out in the PA 2008 and related regulations, including:

- Section 42 requires the applicant to consult with ‘prescribed persons’, which includes certain consultation bodies such as the Environment Agency, Marine Management Organisation and Natural England, relevant statutory undertakers, relevant local authorities, those with an interest in the land, as well as those who may be affected by the development;
- Section 47 requires the applicant to consult with the local community on the development. Prior to this, the applicant must consult the relevant local authorities on the contents of a Statement of Community Consultation (SoCC) and must have regard to any responses in preparing the SoCC. The SoCC must set out the proposed community consultation and, once prepared, must be published in local newspapers circulating within the vicinity of the land in question. The consultation must then be undertaken in accordance with the final SoCC;
- Section 48 places a duty on the applicant to publicise the proposed application in the ‘prescribed manner’ in a national newspaper, The London Gazette, local newspapers circulating within the vicinity of the land and certain marine publications;

- Section 49 places a duty on the applicant to take account of any relevant responses received to the consultation and publicity that is required by Sections 42, 47 and 48; and
 - Section 37 requires that a consultation report is submitted with a DCO application. A full account of the consultation activities carried out during the pre-application stage is provided in the **Consultation Report (Application Document Ref. 5.1)**.
- 1.7.3 Statutory consultation was carried out between 2 December 2025 and 13 January 2026 and was informed by the PEIR.
- 1.7.4 The Applicant had regard to feedback from all stages of consultation during the finalisation of the Application and this ES. The pre-application consultation undertaken by the Applicant that was of particular relevance to the EIA included:
- informal (non-statutory) consultation, comprising –
 - i. early meetings and communications with Stockton-on-Tees Borough Council, Redcar and Cleveland Borough Council, Natural England, the Marine Management Organisation, the Environment Agency and PD Ports;
 - ii. informal consultation with the local community arising from the Statutory Consultation Process; and
 - iii. informal consultation with the relevant local authorities on the preparation of the SoCC for the community consultation under Section 47.
 - formal (statutory) consultation, comprising –
 - i. Section 47 – formal consultation on the SoCC with the relevant local authorities, publication of the SoCC Notice, and consultation with the local community in accordance with the agreed SoCC, including virtual and in-person exhibitions;
 - ii. Section 42 – formal consultation with ‘prescribed persons and bodies’ (relevant consultation bodies that were engaged with during formal consultation); and
 - iii. Section 48 – formal publicity of the proposed Application.
 - additional targeted consultation was undertaken between 13 April 2026 and 13 May 2026 in relation to refinements to the Site boundary, comprising –

- iv. Section 42 – formal consultation with those with an interest in the land affected by the changes ('prescribed persons and bodies') (relevant consultation bodies that were engaged during formal consultation); and
 - v. non-statutory consultation targeted at certain prescribed consultees.
- EIA-related technical consultation –
 - i. this took place throughout the pre-application stage of the Proposed Development;
 - ii. initial meetings with local authorities and key consultation bodies informing the EIA Scoping;
 - iii. the PEIR was produced and published alongside Section 42, 47 and 48 consultation.
- 1.7.5 Feedback on the formal (statutory) consultation (including PEIR) received, along with a summary of matters raised during consultation relevant to the EIA, has informed the EIA process and the findings presented in this ES. The approach to consultation and how the Applicant has had regard to the responses received is more fully documented within the **Consultation Report (Application Document Ref. 5.1)** which includes a separate section on EIA related consultation, in accordance with PINS' Advice on the preparation of consultation reports [Ref 4]. The technical chapters of this **ES (ES Volume I, Chapters 8 – 21, Application Document Ref. 6.1)** also include a summary of relevant consultation undertaken and a description of how this has influenced the approach to the EIA for each topic.
- 1.7.6 Ongoing refinement of the concept design and feedback from consultation has resulted in the evolution of the project design and definition since the PEIR was published. This is described in detail in **Chapter 4: Proposed Development (ES Volume I, Application Document Ref. 6.1)**.
- 1.8 [Competent Experts](#)
- 1.8.1 In accordance with Regulation 14(4) of the EIA Regulations a Statement of Competence is included within **Appendix 1A: Relevant Expertise and Competency (ES Volume III, Application Document Ref. 6.3)**, outlining the relevant expertise or qualifications of the experts who undertook the EIA.

References

- Ref 1 UK Government (2008) Planning Act 2008. Available online: <https://www.legislation.gov.uk/ukpga/2008/29/contents> [Accessed April 2026].
- Ref 2 HM Government (2009) The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (SI 2009 No. 2264). Available online: <https://www.legislation.gov.uk/uksi/2009/2264/made> [Accessed April 2026].
- Ref 3 HM Government (2017) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No. 572). Available online: <https://www.legislation.gov.uk/uksi/2017/572/contents/made> [Accessed April 2026].
- Ref 4 Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on the Consultation Report. Available online: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-consultation-report> [Accessed April 2026].
- Ref 5 Planning Inspectorate (2026) Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment. Available online: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-pre-application-advice-on-environmental-impact-assessment> [Accessed September 2026].
- Ref 6 HM Government (2024) Sustainable Aviation Fuel (SAF) Mandate. Available online: <https://www.gov.uk/government/collections/sustainable-aviation-fuel-saf-mandate> [Accessed April 2026].



www.lighthousegreenfuels.co.uk

