

The Lighthouse Green Fuels Order

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Applicant: LGF Projects Limited

Potential Main Issues for Examination

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Glossary

Acronym	In Full / Term
AGI	Above Ground Infrastructure
ASU	Air Separation Unit
BAT	Best Available Techniques
BNG	Biodiversity Net Gain
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CO ₂	Carbon dioxide
DCO	Development Consent Order
EA	Environment Agency
EIA	Environmental Impact Assessment
ES	Environmental Statement
ExA	Examining Authority
km	kilometre
LGF	Lighthouse Green Fuels
LSE	Likely Significant Effect
MMO	Marine Management Organisation
MW	Megawatts
MWe	Megawatts electrical
NE	Natural England
NEP	Northern Endurance Partnership
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
OMH	Open Mosaic Habitat
PINS	Planning Inspectorate
RAG	Red/Amber/Green
RAG	Red/Amber/Green
RCBC	Redcar and Cleveland Borough Council
SAF	Sustainable Aviation Fuel
SoS	Secretary of State
STBC	Stockton-on-Tees Borough Council

1 Introduction

1.1 Overview

- 1.1.1 This **Potential Main Issues for Examination (Application Document Ref 5.6)** has been prepared by DWD Property and Planning Limited 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 (LGF) project (the Proposed Development) on land within the administrative boundaries of Stockton-on-Tees Borough Council (STBC) and Redcar and Cleveland Borough Council (RCBC).
- 1.1.2 The Order limits for the Proposed Development are made up of the Main Site and Wider Site, together 'the Site'. A more detailed description of the Site is set out at section 2.4.
- 1.1.3 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 Secretary of State (SoS) for Energy Security and Net Zero pursuant to the Planning Act 2008 (the PA 2008) [Ref 1].
- 1.1.4 The Proposed Development comprises a commercial-scale second generation Sustainable Aviation Fuel (SAF) production facility and associated infrastructure.

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-SAF expertise. This experience will be utilised 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 UK's first commercial-scale second generation SAF production facility.
- 1.3.2 The Proposed Development includes the construction, operation, maintenance and decommissioning of a commercial-scale facility that will produce approximately 180 million litres of advanced SAF and approximately 30 million litres of renewable naphtha each year.
- 1.3.3 The Proposed Development includes the following elements (the location of each Work No. is shown on the **Works Plans (Application Document Ref 2.4)**):

Table 2.1 Works Description Summaries

Work Number:	
Work No. 1	SAF production facility comprising: • 1A - feedstock pre-treatment facility including flue gas treatment and stack • 1B - SAF processing facility including thermal oxidiser, flue gas treatment, and stack • 1C - up to two flare structures
Work No. 2	Combined heat and power (CHP) generating station comprising: • 2A - boilers and steam turbine generators • 2B - flue gas treatment and stack
Work No. 3	Feedstock and intermediate and final product handling and storage
Work No. 4	Cooling infrastructure for SAF production facility and CHP plant
Work No. 5	Bridge and culvert crossings of existing infrastructure
Work No. 6	Marine infrastructure comprising: • 6A - construction of permanent quay • 6B - permanent quay • 6C - capital and maintenance dredging
Work No. 7	Electrical connection works comprising: • 7A - underground and overground cable connections to the existing North Bank Supply Point • 7B - electrical connection works
Work No. 8	Modified or new natural gas connection and above ground infrastructure (AGI)
Work No. 9	Supply of industrial gases: Only one of Work No. 9A or Work No. 9B would be developed; • 9A - industrial gases connection works comprising installation of new and repurposing of oxygen and nitrogen pipeline connections, and connection to existing low pressure nitrogen supply • 9B - air separation unit (ASU) facility and connections to Work No. 1
Work No. 10	Modification or removal and replacement of industrial wastewater pipeline connection works
Works No. 11	• Export connection works: 11A - pipeline(s) for the export of SAF and renewable naphtha • 11B or 11C - a pipeline for the export of carbon dioxide (CO₂) connecting to AGI by others (being either AGI C1 or C2 of the Northern Endurance Partnership (NEP) transport and storage pipeline) Only one of Work No. 11B or Work No. 11C would be developed
Works No. 12	Surface water attenuation, and drainage and discharge works
Works No. 13	Laydown areas comprising: • 13A - temporary construction compounds and laydown areas • 13B - permanent laydown and storage

Work No. 14	Access works and private street improvements
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- 1.3.4 In addition, a range of associated development, both specified and unspecified, is proposed in relation to the above.
- 1.3.5 The new quay on the River Tees (**Work No. 6**) will allow delivery of modular plant and construction materials by ship during construction and biomass and waste wood feedstock during operation, reducing reliance on road transport. Feedstock will be stored (**Work No. 3**) then pre-treated at the Main Site and processed into SAF through gasification and gas-to-liquids processes (**Work No.1**).
- 1.3.6 To support operations, the Proposed Development will include a biomass and waste wood-fired CHP plant (**Work No. 2**) with an electrical output capacity of up to 200 megawatts electrical (MWe), providing a low-carbon energy supply for the SAF process. Cooling infrastructure (**Work No. 4**) will be required for the SAF process and the CHP plant. Connections will provide electricity for start-up and to maintain ancillary site supplies (**Work No. 7**), natural gas for start-up and as auxiliary fuel for some processes during operation (**Work No. 8**), and oxygen and nitrogen which will either be delivered to the Site via pipelines or produced by a new ASU in the Main Site (**Work No. 9A or 9B** respectively). Waste materials, including off-specification materials will be exported from the Main Site by road. Finished products (SAF, and a secondary product of the process, renewable naphtha) will be transferred via pipeline(s) (**Work No. 11A**) to local marine loading facilities for marine export or export by road. CO₂ from the acid gas removal unit in Work No. 1B will be exported via pipeline (**Work No. 11B or Work No. 11C**) subject to a suitable agreement to connect to one of two proximate AGIs in the NEP project.
- 1.3.7 The Proposed Development will also include replacement and new wastewater pipeline connection works (**Work No. 10**), surface water drainage systems (**Work No. 12**) and access and street improvements (**Work No. 14**). Space within the Wider Site is identified for temporary construction and laydown and space within the Main Site identified for permanent laydown and storage areas (**Work No. 13**).
- 1.3.8 The preliminary layout of the Proposed Development is shown on **Indicative General Arrangement Plan (Application Document Ref 2.5.1)** and **Indicative General Arrangement Isometric (Application Document Ref 2.5.2)**.

1.4 The Site

- 1.4.1 The Site location and boundary (which is also known as the 'Order limits') are shown on **Site Location Plan (Application Document Ref 2.1)**. The Site is located in Teesside on land to the north and south of the River Tees with connection corridors crossing the Tees.
- 1.4.2 The Main Site is located in the industrial area of Seal Sands approximately 5km east of Billingham town centre and 4km north-east of Middlesbrough town centre, on the north bank of the River Tees in the borough of Stockton-on-Tees). The majority of the Main Site lies south of Seal Sands Road and largely comprises previously developed land formerly used as a chemical plant from the early 1970s. It was last operated by INEOS Nitriles.
- 1.4.3 The Main Site comprises the main SAF facility development area of the Site, lying to the south and north sides of Seal Sands Road and bounded by the proposed quay in the River Tees, with the River Tees to the east.
- 1.4.4 The eastern boundary of the Main Site is formed by the River Tees, where existing jetties will be demolished and a new quay developed.
- 1.4.5 The Wider Site comprises the connection corridors, including land required for road access, pipelines (including under the River Tees), dredging near to the Main Site, and utility connections and construction laydown in both North Tees and (in the borough of Redcar and Cleveland) South Tees.

1.5 The DCO Process

- 1.5.1 Part 3 of the Planning Act 2008 ('the PA 2008') defines which projects constitute a nationally significant infrastructure project (NSIP). Once classed as an NSIP, development consent (in the form of a DCO) is required under Part 4 of the PA 2008.
- 1.5.2 In legislative terms the Proposed Development comprises both a SAF production facility and a CHP generating station together with development associated with the SAF production facility and the CHP generating station.
- 1.5.3 The construction and operation of the main SAF production facility does not automatically fall within the definition of an NSIP. Therefore, on 12 August 2025, the Applicant formally requested a direction by the SoS for Energy Security and Net Zero ('SoS'), pursuant to section 35(1) of the PA 2008, that the following elements be treated as one for which development consent is required. The Section 35 direction request was made in respect of: a main gasification facility to process sustainably sourced biomass; feedstock pre-treatment, syngas clean-up apparatus; Fischer-Tropsch process units; refining units; feedstock, intermediates and finished product storage; quayside with ship loading/ offloading infrastructure; supporting

infrastructure and utility connections (hereafter called the ‘Specified Elements’).

- 1.5.4 The SoS for Energy Security and Net Zero issued a direction under Section 35 of the PA 2008 [Ref 1] on 08 September 2025 to confirm that the Specified Elements of the Proposed Development, together with any matters/ development associated with them, should be treated as development for which development consent under the PA 2008 is required.
- 1.5.5 The CHP plant (**Work No. 2**) surpasses the 50 Megawatt (MW) threshold for generating stations defined in Section 15 of the PA 2008 and is therefore a Nationally Significant Infrastructure Project (NSIP) in its own right.
- 1.5.6 An application for development consent for the Proposed Development has been submitted to PINS acting on behalf of the SoS. Subject to the Application being accepted, PINS will then examine it and make a recommendation to the SoS who will then decide whether to grant a DCO.
- 1.5.7 The application for development consent for the Proposed Development supersedes a previous application that was being progressed by Lighthouse Green Fuels Limited centred on a site off Huntsman Drive in Seal Sands, TS2 1TT (PINS ref. EN010150). Statutory consultation on that application took place between 16 May 2024 and 20 June 2024. As shown on the PINS website¹, that application is discontinued.

1.6 The Purpose and Structure of this Document

- 1.6.1 This document has been prepared and submitted in compliance with the Nationally Significant Infrastructure Projects: 2024 Pre-application Prospectus (July 2026) [Ref 2] and Regulation 5(2)(q) of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (‘the APFP Regulations’) which states: “The application must be accompanied by... any other documents considered necessary to support the application”.
- 1.6.2 The purpose of this document is to provide the Examining Authority (‘ExA’) with a summary of the main residual issues at the time of the DCO Application submission. The issues set out in Table 2.1 below are structured in line with the pre-application stage Issues Tracker. They do not constitute a definitive list of matters likely to be raised during the DCO Examination and do not preclude stakeholders from raising further concerns during the planning process.

¹ <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010150>

- 1.6.3 It is anticipated that the issues outlined in this document may be resolved once stakeholders have had an opportunity to review the Application and it is the Applicant's intention to continue to work with stakeholders following submission of the Application on appropriate resolutions to issues.

1.7 Potential Main Issues for Examination

- 1.7.1 Table 3.1 in Section 3 below, identifies the main issues during the pre-application stage and provides an overview of the issues held by the statutory bodies and local authorities, the Applicant's position on the likelihood of the issue being resolved during the pre-application stage. The table includes a Red/Amber/Green ('RAG') rating to highlight the likelihood of each issue being resolved fully, with the following definition applied to each colour:
- Red – Issues that are unlikely to be resolved during the Examination stage;
 - Amber – Issues that the Applicant expects to resolve during the Examination stage; and
 - Green – Issues which the Applicant has identified a way to resolve and are likely to be resolved early during the Examination stage
- 1.7.2 In addition to the RAG rating, the column 'Likelihood of the issue being resolved during the Examination' is also set out applying a likelihood of high, medium or low.

2 Potential Main Issues for Examination

Table 2.1 List of Potential Main Issues for Examination

c	Description of Issue	Affected Stakeholder(s)	Signposting (to application evidence)	RAG	Likelihood of the issue being resolved during the Examination
11	Biodiversity The potential for areas of designated and non-designated habitats and ecological species to be directly impacted by construction works and operations and for residual biodiversity effects.	- Environment Agency (EA) - Natural England (NE) - Marine Management Organisation (MMO)	- Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Application Document Ref 5.8); - Report to inform Habitat Regulations Assessment (Application Document Reference 5.11.1); - ES Chapter 10 Terrestrial Ecology (ES Volume I, Application Document Ref. 6.1); - ES Chapter 11 Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1); - Terrestrial Ecology ES Figures 10.1 to 10.7 (ES Volume II, Application Document Ref. 6.2); - Marine Ecology ES Figures 11.1 to 11.8 (ES Volume II, Application Document Ref. 6.2); - Terrestrial Ecology ES Appendices, 10A to 10H (ES Volume III, Application Document Ref. 6.3); - ES Appendix 11A: Marine Ecology Survey and Results (ES Volume III, Application Document Ref. 6.3); - ES Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3).		High The design evolution and proposed mitigation are intended to lessen concerns held by consultees. Biodiversity loss has been calculated and on- and off-site mitigation is proposed to achieve no net loss. Work is ongoing to identify off-site availability. The Proposed Development will mitigate and enhance on and off-site habitats with the aim of achieving no net loss of biodiversity and compensate for habitat loss. Biodiversity loss is primarily associated with the loss of neutral grassland and open mosaic habitat (OMH) on the Main Site of the Proposed Development. An Off-site Habitat Compensation Strategy has been developed to address off-site habitat creation to meet ecological compensation requirements, with additional voluntary biodiversity unit contributions to address the remaining shortfall. Discussions are ongoing with local and regional third party biodiversity providers to secure the necessary enhancements.
12	Marine Works Works in the marine environment (Tees Estuary) are required, necessitating environmental impact assessment (EIA). Agreement of methodologies, and assessment of effects have been sought with the relevant statutory nature conservation bodies.	- EA - NE - MMO - PD Ports Limited	- Water Environment Regulations Assessment (Application Document Ref 5.8); - ES Chapter 11 Freshwater and Marine Ecology (ES Volume I, Application Document Ref. 6.1); - Marine Ecology ES Figures 11.1 to 11.8 (ES Volume II, Application Document Ref. 6.2);		High Further to the proposed mitigation measures set out in the Environmental Statement chapters concerning air quality, noise and marine construction no likely significant effects are predicted on the internationally designated sites and their qualifying features. Methods are being proposed and agreed with the appropriate stakeholders for dredging activities that are commensurate with the level of risk associated with contamination in the sediment. Sediment sampling has

			- ES Appendix 11A: Marine Ecology Survey and Results (ES Volume III, Application Document Ref. 6.3); - ES Chapter 20 Marine Navigation (ES Volume I, Application Document Ref. 6.1); - ES Appendix 20A: Preliminary Navigation Risk Assessment (ES Volume III, Application Document Ref. 6.3); - ES Appendix 5A: Framework Construction Environmental Management Plan (ES Volume III, Application Document Ref. 6.3).		identified that much of the material to be dredged is within Action Level 1 (i.e. relatively uncontaminated). The proposed measures will be secured through a detailed Construction Environmental Management Plan (CEMP) and methods must be approved by the MMO further to a condition of the deemed Marine Licence (Schedule 10 of the draft DCO (Application Document Ref 3.1)).
13	Third party agreements along connection corridors The corridors necessarily connect to or pass through a range of land uses where statutory undertakers and utilities/operators have interests and where extant or expected DCO projects are located. Engagement will be held with the main stakeholders from an early point in the pre application stage to seek agreements regarding access to and rights over land, and protective provisions.	Land interests	- Draft Development Consent Order (Application Document Ref. 3.1); - Statement of Reasons (Application Document Ref. 4.1); - Pre-application Land and Rights Negotiations Tracker (Application Document Ref. 4.4)		Medium Discussions are underway with respect to protective provisions as described in the Pre-application Land and Rights Negotiations Tracker (Application Document Ref 4.4). The Applicant expects that agreement will be reached during the DCO examination.
14	Biodiversity Net Gain Lack of clarity on the final form of the implementation of Biodiversity net gain (BNG) for NSIPs, noting that BNG is only mandatory for DCO applications submitted to PINS after 2 November 2026.	- NE - STBC - RCBC	Framework Landscape and Biodiversity Mitigation and Enhancement Strategy (Application Document Ref 5.8)		High Following confirmation that BNG is only mandatory for DCO applications submitted to PINS after 2 November 2026 the Applicant has adopted a position of achieving no net loss in line with the national policy statement and has reflected the latest methodologies and metric in the DCO application.
15	Policy Changes Changes to published policy, guidance and advice relevant to Nationally Significant Infrastructure Projects (NSIPs).	None.	- Applicant's completed section 51 advice log (Application Document Ref. 1.5); - Planning Statement (Application Document Ref. 5.2.1); - Policy Compliance and Accordance Tables (Application Document Ref. 5.2.2);		High The Applicant has considered recent changes to policy and guidance relevant to Nationally Significant Infrastructure Projects in the DCO Application so far as practicable including the revised National Planning Policy Framework (NPPF). These do not alter the ability of the DCO application to be accepted and there remains very clear and substantial benefits of the Proposed Development.
16	Air Quality	- EA - NE	ES Chapter 8 Air Quality (ES Volume I, Application Document Ref. 6.1);		High The Applicant is liaising with the EA, NE and the East Coast Track 1 cluster developer and have agreed

	Demonstrating that the emissions from the operational Proposed Development meet screening criteria for ecological effects, particularly around nitrogen deposition.		- Air Quality ES Figures 8.5 to 8.17 (ES Volume II, Application Document Ref. 6.2); - Terrestrial Ecology ES Appendices, 10A to 10H (ES Volume III, Application Document Ref. 6.3); - ES Appendix 8A: Air Quality Construction Assessment (ES Volume III, Application Document Ref. 6.3); - ES Appendix 8B: Air Quality Operational Assessment (ES Volume III, Application Document Ref. 6.3); - Report to inform Habitat Regulations Assessment (Application Document Reference 5.11.1).		appropriate assessment approaches to determine the acceptable level of effect of nitrogen deposition on identified habitats, alone and in-combination with other projects. Additional soil sampling has been undertaken to help inform the understanding of the acceptable levels of nitrogen deposition that can be accommodated from new developments, recognising the overall decline in industrial emissions in the area over the last 20 years. An assessment has been conducted demonstrating the level of predicted impact on the designated sites from nitrogen deposition from emissions to air and how those levels will be controlled in accordance with the use of Best Available Techniques (BAT), subject to a BAT Assessment and Cost Benefit Analysis that would be required to support the Environmental Permit application for the operational Proposed Development.
17	Noise Demonstrating that the emissions from the construction of the Proposed Development meet screening criteria for ecological effects, particularly on qualifying features of the SPA	- EA - NE	- Report to inform Habitat Regulations Assessment (Redacted) (Application Document Ref. 5.11.1); - Report to inform Habitat Regulations Assessment (Confidential) (Application Document Ref. 5.11.2); - ES Chapter 9 Noise (ES Volume I, Application Document Ref. 6.1); - Noise and Vibration ES Figures 9.2 to 9.5 (ES Volume II, Application Document Ref. 6.2); - ES Appendix 9A: Baseline Noise Survey Report (ES Volume III, Application Document Ref. 6.3).		High The Applicant is proposing use of appropriate noise attenuation measures in key locations and liaising with the EA and NE to agree such measures. Through the use of embedded and proposed mitigation, the Habitat Regulations Assessment demonstrates no Likely Significant Effect (LSE) from construction or operational noise on the qualifying species of the internationally designated site. A requirement in the draft DCO (Application Document Ref 3.1) will also control operational noise from the Proposed Development.

References

- Ref 1 UK Government (2008) Planning Act 2008. Available online:
<https://www.legislation.gov.uk/ukpga/2008/29/contents>
- Ref 2 Planning Inspectorate (2026) Nationally Significant Infrastructure Projects: 2024 Pre-application Prospectus. Available online:
<https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-2024-pre-application-prospectus>

