



Meeting note

Project name	Lighthouse Green Fuels Project
File reference	EN010150
Status	Final
Author	The Planning Inspectorate
Date	14 July 2022
Meeting with	Alfanar Energy Limited (Lighthouse Green Fuels Limited)
Venue	Microsoft Teams
Meeting objectives	Project Update Meeting
Circulation	All attendees

Summary of key points discussed and advice given

The Planning Inspectorate (the Inspectorate) advised that a note of the meeting would be taken and published on its website in accordance with section 51 of the Planning Act 2008 (the PA2008). Any advice given under section 51 would not constitute legal advice upon which applicants (or others) could rely.

Proposed Development

Introduction to the Applicant and background

The Applicant introduced itself as a multinational group with a background in manufacturing and contracting. The group development agenda includes international green energy projects, with a focus in the UK on the decarbonisation of aviation transport. The Applicant stated that at present aviation emissions contribute to 2 -3% of global CO₂ emissions and in a decarbonised world this could grow to 50% of global CO₂ emissions. Emissions are predicted to grow due to increased passenger levels. The Applicant stated that global demand for sustainable aviation fuel (SAF) is therefore predicted to increase, since battery powered aviation infrastructure remains a nascent technology. The Applicant highlighted that the Department for Transport (DfT), have consulted on a new SAF mandate and are considering ambitious targets for SAF production. Also, Contracts for Difference (CfD) proposals for SAF are under discussion, which could bring long term price stability for UK based projects. The Applicant emphasised that production of SAF at UK plants would bring significant economic benefits. The project would be the largest, most advanced sustainable fuel project in the Teesside area.

Project overview

The project is proposed to convert one million tonnes of solid waste every year from the commercial/ industrial waste stream into 2226 barrels per day of SAF and 1000 barrels of Naphtha. The SAF is predicted to have low aromatic compounds and sulphur content. The plant would be carbon capture and storage (CCS) enabled, with the potential to connect to

the Net Zero Teesside (NZE) project. The site was situated close to related stakeholders. SAF would have significant GHG savings in comparison to fossil fuels and also had environmental benefits due to its low sulphur content and increased energy density.

Two plants had been acquired by the Applicant – Tees Valley 1 (TV1) and Tees Valley 2 (TV2). The intention was to retain the TV1 power plant, electrical substation and utilities connections (demolishing the remainder of the site) and incorporate this into the new scheme. At present the existing power plant had 49.9 megawatt (MW) capacity, however with the new project this would increase to 65 – 70MW, potentially more if on-site power is provided to ancillary infrastructure such as an air separation unit (ASU).

An overview of the process flow and plant was provided. The operational materials recycling facility (MRF) would feed into on site storage, consisting of four vertical silos, four gasifier islands including primary gas clean ups. The generated syngas would then be compressed and directed to secondary gas clean up including an acid gas removal unit (AGRU) where CO₂ and sulphur species are removed from the syngas. Ultra clean syngas is then converted to long-chain hydrocarbon waxes in the Fischer Tropsch (FT) unit. Long-chain waxes are cracked in an on-site hydrocracker followed by separation of the middle distillate synthetic-paraffinic kerosene (FT-SPK) and naphtha in a fractionation column.. Feedstock sourcing would require high volumes of waste, which would be sourced from the Teesside area and other areas with high outputs/ populations such as the South East. Raw feedstock is processed in the MRF facilities to produce a refined, homogeneous waste feedstock. Recyclables, such as metals, are recovered in the processing step.

Economic benefits from the scheme were anticipated through investment into construction and operational employment. The project was considered advanced and funding grants had been awarded by the Department for Transport.

Consenting strategy

The project was anticipated as being operational by Q3/ Q4 2027. This programme included the necessary planning permissions as granted by the Town and Country Planning Act (TCPA) route. The consenting strategy was being explored and the Applicant was meeting with the Department for Business, Energy and Industrial Strategy (BEIS) to discuss a potential s35 direction. It was anticipated that the on site generating station would be classed as a Nationally Significant Infrastructure Project (NSIP) due to its generating capacity being greater than 50 MW. It was also anticipated that the remainder of the development would be brought into the NSIP consenting regime under a s35 directive. The remaining elements were intertwined and would need to be considered energy projects. The Applicant compared the project to the Boston Alternative Energy Facility with the key difference being the variety of output products (being gases, steam and SAF). The full use of the Development Consent Order for all elements of the project would allow for the seeking of compulsory acquisition powers. The majority of the site was in the control of the Applicant and negotiations were underway with other landowners. A land agent was being appointed to complete referencing, with the vast majority of land having a single landowner. The Applicant was confident there was no crown land.

Existing infrastructure on site was largely built, but had been abandoned for the gasification facility. Existing planning permission was in place for this. The Applicant had sought a scoping opinion from Stockton Council regarding a gasification SAF facility on the same site. As the project would be considered an Environmental Impact Assessment (EIA) development

the Applicant was considering whether it was satisfied with the existing scoping opinion or whether to pursue scoping with the Inspectorate. The Inspectorate advised that the TCPA EIA scoping process was different, with a different range of consultees. The Inspectorate advocated that, although not mandatory, scoping was advisable, particularly for an Applicant that was new to the regime. The consultation process could be triggered through the service of notice to the Inspectorate.

A single round of consultation was planned due to the existing consents and advanced nature of the proposals. The Inspectorate advised the emphasis in the Planning Act 2008 (PA2008) was to front load the application and resolve matters as early in the process as possible. Increased engagement could reduce risks during the Examination process. The Inspectorate was anticipating a high volume of applications during the same time frame, which could impact local planning authorities (LPA) and statutory bodies ability to resource the Examination. The Applicant was looking to enter a planning performance agreement (PPA) with host authorities and other statutory parties, which it would be discussing over coming months following the outcome of its proposed s35 direction.

An overview of the programme was provided, with estimate submission in Q1/ Q2 2023 (this would be confirmed following a decision from BEIS regarding the s35 direction). The Inspectorate advised that the programme should be reviewed with the potential inclusion of scoping, taking responses into account, consultation, any draft document review. The Inspectorate required 10 days advanced notice and the submission of a shape file identifying the red line boundary prior to the submission of a scoping request. Further information could be found in the Inspectorate's [Advice Note 7](#).

Some land to the northwest may used for temporary construction purposes but this has been previously used for the construction site. A baseline survey had scoped out any issues with contamination on site from previous land uses in the original scoping report. The main waste products generated from the process would be slag produce, ash from the gasification process and elemental sulphur product. Environmental permits would be sought during the 16 month period for the FEED process. The Environment Agency were aware of these plans.

Environmental issues

The Inspectorate queried how progressed permits would be at the time of Examination. The Applicant suggested that permitting work would be twin tracked (particularly in relation to air quality assessments). Although the project programme aligned with the delivery of the Northern Endurance Partnership and NZT the Proposed Development is not fundamentally dependant on these projects, however there would be benefits to linking up.

Transport assumptions were made in current permits, with a combined 720,000 tonnes of waste expected. One third was expected at a plant at Teesside and discussions were ongoing to secure this supply. The remaining two thirds would be produced remotely and would arrive via rail. The Applicant needed to hold discussions with Network Rail regarding capacity but relevant consultants have been instructed to advise the Applicants. The high density of waste was expected to reduce the volume of journeys. The Applicant would add storage and bulk material handling equipment approximately 1km from the rail terminal. The Inspectorate advised the worst case scenario for transport and a clear commitment to transport methods would need to be set out where there were options between road and rail.

The main environmental issues for consideration were air, noise and vibration, visual impacts, and transport (which was dependent on the worst case scenario). Ash from gasification was currently assumed to be non hazardous and would be re-used. An on-site waste water treatment plant was planned to minimise waste. If additional discharges were expected, the Applicant would need to consider if it was relevant to particular waste streams if scoping. The raw water supply would be from ground water extraction or sourced from the local water company. The Inspectorate advised that water supply issues had featured in recent projects so this was worth exploring to ensure a guaranteed source. The Applicant explained that discussions had been held with the relevant water company but would restart as the project progresses.

The Applicant had access to its waste partners archives, as well as beginning 12 months of sampling at the SAF plant to understand the range in contaminants and design the plant accordingly. This would support a consistent product output.

Practical arrangements

The Applicant would supply the necessary information for the project page on the Inspectorate's website and confirm when this should be published. The Inspectorate would set up a project email account and assign a case manager.

The next meeting would be arranged for later in the year.