



**For the attention of James Dawkins**

Head of Planning  
Department for Business, Energy & Industrial Strategy  
1 Victoria Street  
London  
SW1H 0ET  
United Kingdom

Date  
6 October 2022

**By Email**

Dear Sir

**LIGHTHOUSE GREEN FUELS LIMITED**

**LIGHTHOUSE GREEN FUELS PROJECT, LAND AT PORT CLARENCE, STOCKTON-ON-TEES, TEESSIDE**

**REQUEST FOR A DIRECTION FROM THE SECRETARY OF STATE UNDER SECTION 35 'DIRECTIONS IN RELATION TO PROJECTS OF NATIONAL SIGNIFICANCE' OF THE PLANNING ACT 2008 FOR DEVELOPMENT TO BE TREATED AS DEVELOPMENT FOR WHICH DEVELOPMENT CONSENT IS REQUIRED**

We, Lighthouse Green Fuels Limited (hereafter referred to as 'LGF' or the 'Applicant'), hereby write to request that the Secretary of State ('SoS') for Business, Energy & Industrial Strategy ('BEIS') gives a direction under Section 35 'Directions in relation to projects of national significance' of the Planning Act 2008 (the 'PA 2008') for the relevant elements of the Lighthouse Green Fuels Project to be treated as development for which development consent is required.

**Overview**

LGF is proposing to apply for development consent pursuant to Section 37 'Applications for orders granting development consent' of the PA 2008 from the SoS for BEIS to allow it to construct, operate and maintain the relevant elements of the Lighthouse Green Fuels Project (the 'Project') on land at Port Clarence, near Stockton-on-Tees, Teesside (the 'Project Site'). The current iteration of the Project Site redline boundary is identified on the two enclosed plans.

The Project is anticipated to be the UK's first commercial scale waste-to-sustainable aviation fuel ('SAF') project to be constructed and would comprise:

- A main gasification facility (incorporating four gasifier units and associated gas clean up infrastructure) to treat the input waste;
- Synthesis gas ('syngas') clean-up apparatus;
- Fischer-Tropsch process units (used to convert gasifier products into liquid hydrocarbons);
- Hydroprocessing units;
- SAF product storage units;
- Waste feedstock storage silos;

- Carbon capture units (the captured carbon will be transferred to permanent storage off-site);
- High pressure and low pressure gas flares;
- Combined Cycle Gas Turbine ('CCGT') power plant with capacity up to 150MW; and
- Other associated infrastructure.

The proposed application for development consent would relate to all elements of the Project. The precise extent of the development comprised in this direction request is set out later in this letter. LGF therefore asks that the SoS treats this submission as a 'qualifying request' (as defined in Section 35ZA (11)) of the PA 2008 outlining, as required by that sub-section and sub-section 35ZA(1):

- the development to which the request relates;
- how the conditions in Section 35(2)(a) and (b) are met; and
- that no applications for consent or authorisations listed in Section 33 'Effect of requirement for development consent on other consent regimes' (1) or (2) have been made in relation to the development to which this request relates.

Compliance of this submission with Section 35ZA(1) and (11) is confirmed below.

### **The Applicant**

LGF is a company wholly owned by Alfanar Global Development Company ('Alfanar'). Alfanar is a global project development, manufacturing, and engineering company founded in 1976 and headquartered in Saudi Arabia, with a presence in 24 countries, mainly in the Middle East, Asia, Africa, and Europe. The group turnover is more than US\$2.5 billion annually and employs more than 18,000 people, including 2,000 engineers. More information about the company can be found at [www.alfanar.com](http://www.alfanar.com).

Since 2015, Alfanar has been developing expertise in the waste and biofuels sectors. Alfanar has established a UK-based specialist team for the development of waste-to-SAF and other biofuels and decarbonisation projects. The team has extensive experience of conventional energy-from-waste, gasification and complex oil & gas projects. Alfanar has developed significant in-house waste-to-SAF expertise since the inception of development of the LGF Project. Alfanar will leverage this knowledge, as well as their experience as a developer of renewable projects and turnkey Engineering, Procurement and Construction ('EPC') contractor, to successfully construct and operate the LGF Project.

The Project represents a ~£1.2 billion investment in domestic SAF production within the UK. It is anticipated that over 240 permanent jobs will be supported by the Project and associated infrastructure, with a further 750 jobs anticipated during the construction phase. Development of domestic SAF production will bring significant economic benefit to the UK; the Gross Value Added (GVA) arising from the Project is estimated to be in excess of £470m.

In addition to the Project, Alfanar has plans for additional SAF facilities within the UK. Alfanar's investment in the UK is very much a long-term and sustainable project.

## **Background to the Lighthouse Green Fuels Project**

Following the successful development of large-scale renewable energy projects globally (i.e. wind and solar), Alfanar is now focusing its group efforts on projects to decarbonise transport – in particular, the decarbonisation of aviation. The Lighthouse Green Fuels Project is Alfanar's premier decarbonisation project, and it will be located in Teesside.

Transport decarbonisation is one of the most significant challenges in achieving Net Zero ambitions. Decarbonisation of aviation, unlike other forms of transport, faces a bigger challenge. Several decarbonisation routes have been proposed, however, sustainable aviation fuels present the only viable near, mid- and long-term solution, offering significant greenhouse gas savings, whilst also being capable of being used within the existing distribution, storage and refuelling infrastructure for aviation.

Global demand for SAF is expected to grow at near exponential rates towards 2050 as countries across the world strive to achieve Net Zero. Demand is expected to reach between 330 – 445 million tonnes per annum (Mtpa) by 2050 (source: ATAG *"Fuelling Net Zero"*). Currently the UK uses approximately 12 Mtpa of aviation fuel (2019 data). To meet the UK's ambitions of 10% SAF uptake by 2030, 1.2 Mtpa of low carbon SAF are required. This equates to ~14 plants of similar size to the Project being required to meet the demand. Alfanar and LGF believe that this demand is best met by domestic SAF production plants, rather than relying on costly imports.

Alfanar and LGF consider that the UK is ideally placed as a key global aviation hub with access to permanent geological carbon stores and these benefits should be leveraged to allow the UK to become a world-leader in the production of low carbon SAF. The growing market for SAF, alongside regulatory and Governmental support, has created an attractive environment to construct large-scale SAF facilities within the UK.

## **Project Description and Site**

The Project is anticipated to be the UK's first, commercial scale, waste-to-SAF project, having the potential to convert domestic and commercial waste into aviation fuel to be used by UK airports. The Project will utilise the Fischer-Tropsch process to create the SAF; this is a proven technology and is already in use around the world. Large-scale examples of the technology can be found in Nigeria (Escravos Project), Qatar (Pearl & Oryx Projects), and Uzbekistan (UzGTL Project).

The Project is the most advanced, and largest planned waste-to-SAF project in the UK utilising gasification and Fischer-Tropsch technology. Alfanar recently announced the appointment of a Front-End Engineering Design (FEED) engineering company to commence the FEED process. The FEED commenced in June 2022 and is anticipated to continue for ~16 months. Following completion of the FEED, Alfanar expects a ~4-year construction period with commercial operations commencing in 2027.

The Project (which it is proposed would be the subject of the application for development consent, subject in part to receiving the direction now being sought) comprises the following elements:

- Main gasification facility (x4 gasifier units and associated primary gas clean up units) to treat the input waste feedstock and produce a raw syngas. Major contaminant species (such as particulate matter, ammonia, and sulphur species) are removed in the primary gas clean-up units, producing a partially cleaned syngas;
- Syngas clean-up apparatus and water gas shift reactor; to remove residual contaminant species (such as sulphur, mercury, halides, etc), alter the ratio of hydrogen and carbon monoxide in the syngas, and produce an ultra-clean syngas suitable for conversion in the downstream Fischer-Tropsch reactor. An acid gas removal unit is contained within the syngas clean-up section of the plant. This unit removes carbon dioxide ('CO<sub>2</sub>') and hydrogen sulphide species from the syngas. High purity CO<sub>2</sub> from the unit will be compressed and directed to permanent storage;
- Fischer-Tropsch process units; ultra-clean syngas from the gasifiers is catalytically converted in the Fischer-Tropsch reactor into long chain hydrocarbon waxes and other light hydrocarbon species;
- Hydro-processing units; long-chain hydrocarbon waxes from the Fischer-Tropsch unit are cracked into shorter chain hydrocarbons. The resultant mixed hydrocarbon stream is separated in a fractionation column to yield the final product synthetic paraffinic kerosene (FT- SPK; SAF) and green naphtha by-product. Light hydrocarbon species are recycled or used to generate power for the SAF plant;
- SAF product storage units; small, buffer storage is to be installed on the facility for the final product SAF and by-product naphtha. Large-scale bulk-liquid storage will be provided by a neighbouring tank-farm facility. Products will be transferred to the off-site storage facility via pipelines;
- CCGT power plant with capacity up to 150MW;
- Waste feedstock storage silos; vertical silos will be provided for the storage of waste feedstock on the Lighthouse Green Fuels site;
- Carbon capture units; CO<sub>2</sub> is removed from the main syngas stream via the acid gas removal unit (described above). CO<sub>2</sub> from this unit will be compressed and sent to permanent off-site storage. Post-combustion carbon capture will also be installed on the integral CCGT power plant to further reduce emissions from the LGF plant, and help to reduce the carbon intensity of the final SAF product. Captured carbon emissions from the power plant will be compressed and directed to permanent storage;
- High pressure and low-pressure gas flares will be provided for emergency / abnormal operation scenarios;
- Combined heat and power (CHP) connections to the existing adjacent materials recycling facility (MRF). This will include pipework running between the Project and neighbouring MRF to provide low-grade heat for drying the waste feedstock. Pipework will also be installed for the returned heating fluid post utilisation. Electrical cables will be installed between the Project

and neighbouring MRF facility to provide power (generated by the Project's integral CCGT power plant);

- Other associated infrastructure. This will include an air separation unit (ASU) for the production of oxygen and nitrogen required by the LGF plant. Associated pipelines are required to transport gaseous oxygen and nitrogen from the new build ASU to the LGF plant. Conveyor infrastructure is also required to link the main SAF facility with the existing rail terminal (approx. 1 km to the west of the main site). Pipelines are required to transfer final products (SAF and green naphtha) to and from the waterside bulk liquid storage terminal. Pipelines are also required to transfer final products from the waterside bulk liquid storage terminal to the existing inland rail / freight terminal. A new CO<sub>2</sub> pipeline is also required to connect the project into the Net Zero Teesside carbon capture and storage infrastructure;
- Rail terminal development and conveyor infrastructure. It is proposed that bulk solid material handling and storage infrastructure will be constructed at the neighbouring inland rail terminal. Handling and storage equipment is required to receive the waste feedstock via rail. To facilitate receipt of bulk solid material (i.e. waste feedstock) an additional rail track must be added to the rail terminal. Buffer bulk storage will be installed at the terminal to receive and store large quantities of waste. Above-ground conveyors will transfer the pelletised waste material from the rail terminal to the Project site;
- Additional feedstock storage. It is anticipated that a second bulk solid material feedstock storage facility will be constructed adjacent to the Project site. This facility will provide buffer storage to accommodate operational regime differences between the LGF plant and associated MRF facilities. The storage facility will allow the LGF plant to build up suitable buffer capacity to maintain operations while the MRF facilities are shut down for maintenance, and *vice versa*. The storage will be provided by bunkers. These bunkers will be covered for inclement weather protection, or alternatively, constructed within a dedicated building; and
- Facility off-site car parking; the Project intends to construct permanent off-site parking facilities for full-time employees and contractors of the LGF plant. In accordance with typical refinery norms, this parking is best provided off-site from the main biorefinery facility. This plot space will be utilised for the construction village during construction.

## **Operational Process**

Raw input waste material will be sourced and delivered to the neighbouring, existing and operational MRF. The MRF will process the raw waste feedstock, removing recyclable materials and inert species, producing a high calorific value, homogeneous pelletized solid recovered fuel (SRF) feedstock for the LGF facility. Pelletized feedstock will be transferred to vertical storage silos, providing buffer storage capacity for the SAF production process.

Additional waste feedstock, in the form of SRF pellets, will be sourced nationally from across the UK. Additional feedstock will be transferred by rail to the Teesside region. LGF intend to receive the waste feedstock at a neighbouring rail terminal facility operated by a third party. Waste feedstock will be transferred to the main facility site within the Project Site via conveyors to be installed between the rail terminal and the main SAF facility. Additional feedstock will be transferred to the vertical storage silos located on the Project Site.

Pelletized feedstock is transferred from the storage silos to the four gasification islands. Feedstock is converted into syngas using fluidised bed gasification technology. Major contaminant species, such as

particulate matter, ammonia and sulphur species are removed from the raw syngas in the primary gas syngas clean-up units, which include high temperature tar cracking and wet scrubbing steps. The partially cleaned syngas is compressed to high pressure and directed to the secondary gas clean-up section of the LGF plant.

The secondary gas clean-up section features several adsorbent and catalytic processes designed to remove residual contaminants from the syngas and adjust the ratio of hydrogen to carbon monoxide, generating an ultra-pure gas for conversion to liquid products in the downstream Fischer-Tropsch reactor. At the heart of the secondary gas clean-up section is an acid gas removal unit (AGRU) which strips CO<sub>2</sub> and hydrogen sulphide from the syngas. Removed high-purity CO<sub>2</sub> will be directed to permanent storage. Hydrogen sulphide is subjected to further processing, resulting in a pure sulphur stream suitable for sale / reuse.

Ultra-clean syngas is converted into long-chain hydrocarbon waxes and other light hydrocarbon species in the Fischer-Tropsch (FT) unit. Light hydrocarbons are recycled and used to produce power in the integrated CCGT power plant. Hydrocarbon waxes are upgraded in an on-site hydrocracker, producing a mixed hydrocarbon stream. Conventional fractionation technology is used to separate the desired final synthetic paraffinic kerosene (FT-SPK; sustainable aviation fuel) product and by-product green naphtha. Off-gases from the product upgrading units are recycled and used in the integrated CCGT power plant for power generation.

SAF will be sent to on-site, small buffer storage where it will be tested / quality checked before being transferred to off-site bulk liquid storage via two pipelines – one for SAF and one for green naphtha. Off-site storage is expected to be provided by a 3<sup>rd</sup> party provider with an existing facility less than 0.5 km from the LGF sites. Pipeline infrastructure for SAF and green naphtha will also be installed between the waterside bulk liquid storage terminal and the inland rail freight terminal (also owned by the 3<sup>rd</sup> party provider). The Project therefore benefits from export facilities via both rail and ship.

## **The Project Site**

The Project Site lies fully within the administrative area of Stockton-on-Tees Borough Council. The enclosed plans show the current extent of the Project Site and the proposed development consent order ('DCO') application site boundary edged in red. The Project Site extends to approximately 75 hectares (185 acres) in area.

The main part of the Project Site was partially developed by Air Products Plc pursuant to planning permissions for energy generation facilities (using plasma gasification technology) granted in 2011 and 2013. Air Products developed part of the Project Site (previously referred to as TV1) and were in the process of developing a second adjacent part of the Project Site (previously referred to as TV2) until construction works were suspended in November 2015. In April 2016 Air Products announced that it would be exiting the energy from waste market in the UK and that the TV1 and TV2 sites would not be progressed to become operational. The Project Site remains subject to those extant implemented planning permissions (as varied and amended). The Project will be constructed predominantly on the same footprint of the TV1 and TV2 sites.

In 2018, Alfanar, following several years of research into appropriate technologies, acquired certain interests in the Project Site with a plan to redevelop it to create a facility capable of producing liquid fuels from waste. The Project Site was particularly attractive to Alfanar owing to the existing planning permissions for waste processing, the existing on-site infrastructure and services, the proximity of the Project Site to key supporting / complementary infrastructure within the Teesside region, and the potential for use of rail and water transport to move products into and out of the Project Site.

## Reasons for seeking a Section 35 direction

LGF is proposing to apply for development consent from the SoS for BEIS to allow it to construct, operate and maintain the Project on land at Port Clarence, Stockton-on-Tees, Teesside. Section 14 (Nationally significant infrastructure projects: general) of the Planning Act 2008 ('PA 2008') defines the types of development that constitute a 'nationally significant infrastructure project' (a 'NSIP') and therefore require development consent under Section 31 (When development consent is required). In respect of energy projects these include generating stations, electric lines, underground gas storage facilities, Liquefied Natural Gas ('LNG') facilities, gas reception facilities, gas transporter pipelines and other types of pipelines.

The generating station element of the Project constitutes a NSIP in its own right under Section 15(2) 'Generating stations', as it will be an onshore electricity generating station in England with a capacity of more than 50 MW. The other elements of the Project (including the main SAF facility and related infrastructure) do not represent NSIPs in their own right as they do not meet any of the criteria or exceed any of the thresholds in the relevant sections of the PA 2008.

Section 115 'Development for which development consent may be granted' of the PA 2008 confirms that development consent may be granted for both development for which development consent is required (i.e. a NSIP), and 'associated development'. Section 115(2) and (3) provide outline criteria for what can constitute 'associated development', which are complied with in relation to all elements of the Project (as no dwellings are proposed, and the development is all within the areas specified in Section 115(3)). In assessing whether certain elements of the Project are 'associated development', it is also necessary to consider the terms of any relevant guidance.

The Department for Communities and Local Government (DCLG) (now known as the Department for Levelling Up, Housing and Communities) has produced guidance on associated development ('Planning Act 2008: Guidance on associated development application for major infrastructure projects', April 2013). Paragraph 5 sets out a number of core principles that the SoS should take into account in deciding whether or not development is associated development:

*'(i) ... associated development ... requires a direct relationship between the associated development and the principal development. Associated development should therefore either support the construction or operation of the principal development or help address its impacts.*

*(ii) Associated development should not be an aim in itself but should be subordinate to the principal development.*

*(iii) Development should not be treated as associated development if it is only necessary as a source of additional revenue for the applicant, in order to cross-subsidise the cost of the principal development. This does not mean that the applicant cannot cross-subsidise, but if part of a proposal is only necessary as a means of cross-subsidising the principal development then that part should not be treated as associated development.*

*(iv) Associated development should be proportionate to the nature and scale of the principal development. However, this core principle should not be read as excluding associated infrastructure development (such as a network connection) that is on a larger scale than is necessary to serve the principal development if that associated infrastructure provides capacity that is likely to be required for another proposed major infrastructure project...'*

Paragraph 6 of the DCLG guidance states that it is expected that associated development will, in most cases, be typical of development brought forward alongside the relevant type of principal development or of a kind that is usually necessary to support a particular type of project, for example (where consistent with the core principles above), a grid connection for a generating station.

The application for development consent is proposed to encompass all the elements for the Project. The proposed generating station constitutes a NSIP in its own right. In terms of what parts of the Project are associated development for the purposes of Section 115 of the PA 2008, it is considered that, as a minimum, the CHP infrastructure, ASU, conveyor infrastructure, additional feedstock storage away from the main site, and parking fall within this category, plus the electricity connection. Each of these elements would have a direct relationship with the generating station as each is required to support its operation. Furthermore, they are clearly subordinate to the generating station and some elements, e.g. parking or offsite fuel storage, are listed at Annex A and B to the DCLG guidance as examples of general associated development and associated development specific to onshore generating stations. They are all also works that are typically brought forward with generating station developments.

In addition, the on-site carbon capture facilities would also be considered to be associated development. As the generating station is being designed and promoted as one that would capture more than 90 % of the emitted CO<sub>2</sub> from first operation (as opposed to being simply 'carbon capture ready'), the apparatus and development required to capture that CO<sub>2</sub> and compress it is a necessary subsidiary part of the NSIP. There is direct relationship between this apparatus and the generating station, and it is required to achieve the generating station's intended operation. It is noted that the White Rose Carbon Capture and Storage Project's development consent application was promoted on the basis that the related capture technology was associated development.

LGF considers the main SAF gasification facility cannot be considered associated development as it is not subsidiary to the proposed on-site generating station. Further, Section 14 of the PA 2008 does not explicitly specify waste-to-sustainable aviation fuel facilities as being a type of infrastructure that is considered to be a NSIP within the Act. Accordingly, LGF has decided to request that the SoS gives a direction under Section 35 to ensure that all the elements of the Project (in addition to the generating station infrastructure) are treated as development for which development consent is required. In particular, LGF would like to have certainty as to the relevant consenting regime for the Project, given its national significance in several respects.

It is also likely that LGF would need to seek powers of compulsory acquisition in order to achieve the necessary level of certainty that the Project can be delivered, as an entire project. A Section 35 direction would help to ensure that such compulsory acquisition powers can be sought and, if justified, granted pursuant to the DCO planning process and within a single consent.

Accordingly, this request for a direction pursuant to Section 35 of the PA 2008 therefore specifically relates to the following parts of the Project, with the other Project elements all comprising a NSIP or being associated development:

- The main gasification facility (x4 gasifier units) to treat the inputted waste;
- Syngas clean-up apparatus;
- Fischer-Tropsch process units;
- Hydro-processing units;
- SAF product storage units;
- Waste feedstock storage silos;



- Carbon capture units;
- High pressure and low pressure gas flares;
- Pipelines required to transfer final products from the main facility to the storage terminal, and from the storage terminal to the existing inland rail / freight terminal, and a new CO<sub>2</sub> pipeline to connect the Project to the proposed Net Zero Teesside carbon capture and storage infrastructure; and
- Rail terminal development.

The above elements of the Project are indicatively identified on the enclosed plan.

We have set out below how the Project satisfies the qualifying criteria to be considered under Section 35 of the PA2008, why it is of national significance, and why it should be considered in its entirety under the PA 2008 regime.

### **‘Qualifying Request’ under Section 35**

Section 35(1) of the PA 2008 states that the SoS may give a direction for development to be treated as development for which development consent is required subject to the provisions set out in that section and also Section 35ZA. Those relevant to the Project are as follows:

- Section 35(2)(a)(i) – the development forms part of a project (or proposed project) in the field of energy, transport, water, wastewater or waste.
- Section 35(2)(b) & (3)(a) – the development will (when completed) be wholly in England or waters adjacent to England up to the seaward limits of the territorial sea.
- Section 35(2)(c)(i) – the SoS thinks the project (or proposed project) is of national significance, either by itself or when considered with (in the case of paragraph (a)(i)) one or more other projects (or proposed projects) in the same field.

The Project would be a facility that in many respects is similar to a major >50MW energy-from-waste (EfW) facility; it will use a significant amount of waste (that would be sufficient to power a conventional EfW facility with an output capacity well in excess of 100MW) and then converts that waste into energy / energy vectors. The energy products that are created from the gasification and related processes are as follows:

- Sustainable Aviation Fuel (FT-SPK) to power aeroplanes. This is an energy vector to be used in the aviation industry as an alternative to kerosene fuel. Syngas is the key product of the gasification process; that syngas is then cleaned, with contaminants and acid gases being removed. The cleaned syngas is then converted to hydrocarbons within the Fischer-Tropsch process, and finally the hydrocarbons are ‘cracked’ to produce SAF and naphtha;
- Off-gases for energy generation purposes. The Fischer-Tropsch process also produces off-gases which are then directed to one of the two gas turbines within the on-site generating station, to produce electricity for the on-site processes;
- Naphtha for energy generation purposes. It is anticipated that the second gas turbine within the generating station will be fired on on-site by-product liquid naphtha; approximately 50% of the produced naphtha will be used for this power generation purposes.

Accordingly, the project, as a whole, should be considered to be an energy scheme, and therefore falls within one of the qualifying infrastructure fields listed in Section 35(2)(a)(i). The term ‘field of

energy' is not defined within the PA 2008 but it is reasonable to conclude that this encompasses at least the types of infrastructure covered under 'Energy' at Sections 15 to 21 of the PA 2008.

Second, the Project site is wholly within England or adjacent waters up to the seaward limits of the territorial sea, meeting the criteria of Sections 35(2)(b) and 35(3)(a) of the PA 2008.

Section 35(2)(c) requires the project (subject of a request for a direction under Section 35) to be of national significance. As explained in detail below, the Project is without question of national significance. It is anticipated to be the UK's first and largest commercial scale waste-to-SAF project, it will contribute to the diversion of household and commercial waste from landfill and also the decarbonisation of the UK's aviation sector. The Project is particularly well located to provide SAF to local airports, and is particularly close to Teesside Airport.

Section 35ZA(1) states that the power in Section 35(1) to give a direction in a case within Section 35(2)(a)(i) (projects in the field of energy etc) is exercisable only in response to a qualifying request if no application for a consent or authorisation mentioned in Section 33(1) of (2) has been made in relation to the development to which the request relates. We can confirm that no application for consent or authorisation mentioned in Section 33(1) or (2) has been made by it in relation to the elements of the Project to which this request relates. Section 35ZA(11) defines a 'qualifying request' as meaning a written request for a direction under Section 35(1) that:

*'(a) specifies the development to which it relates, and*

*(b) explains why the conditions in section 35(2)(a) and (b) are met in relation to the development;'*

This request represents a 'qualifying request' as it is made in writing and specifies the development to which it relates (see 'Project Description and Site' above and the enclosed plans). In addition, as confirmed above, the conditions in Section 32(2)(a) and (b) are fully met.

### **National Significance of the Project**

The Lighthouse Green Fuels Project is anticipated to be the UK's first and largest commercial scale, waste-to-SAF project. The Project is of national significance given its size and scale and as it has the potential to make a significant contribution to decarbonising the UK's aviation sector and act as a catalyst to further SAF developments coming forward in the UK and beyond.

### Importance of the Project to the decarbonisation of the aviation industry

The UK is now under a statutory obligation to bring all greenhouse gas emissions to 'net zero' by 2050 (compared with the previous target of at least 80% reduction from 1990 levels). The government's Net Zero Strategy: Build Back Greener (published October 2021) sets out how the UK will seek to decarbonise various sectors of the economy in the pursuit of reaching 'net zero' by 2050. On 19 July 2022 the government published its Jet Zero Strategy which sets out how the UK will achieve net zero in the aviation industry by 2050. The document also explains the 'critical role [aviation] plays in boosting trade, tourism and travel' in the UK.

The Jet Zero Strategy contains six policy measures where aviation decarbonisation efforts should be focused and one of those policies is:

*'building a thriving UK sustainable aviation fuel industry, bringing UK innovations to the commercial market, supporting thousands of green jobs, and supporting the UK's fuel security.'*

The Strategy provides further elaboration on that key policy, stating:

*‘SAFs are a key lever to accelerate the transition to Jet Zero, and represent an industrial leadership opportunity for the UK.*

*We will be supporting the development of the UK SAF industry with £180m of new funding.*

*By 2025 we are committing to having at least five UK SAF plants under construction and a SAF mandate in place with a target of at least 10% SAF in the UK aviation fuel mix by 2030.’*

The Strategy states that SAF will be essential to achieve net zero aviation for medium and long-haul flights, which account for around 80% of the CO<sub>2</sub> emissions from aviation.

Further, the Strategy explains that some of the co-benefits of SAF include:

- By 2035, the development of a SAF industry could generate up to £2.7bn Gross Value Added for the UK from UK production and global exports; and
- By 2035, the development of a domestic industry for the production of sustainable aviation fuels is expected to support up to 5,200 UK jobs

The government’s support for SAFs builds on the Committee on Climate Change’s policy recommendations on aviation (<https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Aviation.pdf>) which included:

*‘Longer-term, support for sustainable aviation fuel (SAF) should transition to a more bespoke policy, such as a blending mandate. However, near-term construction of commercial SAF facilities in the UK still needs to be supported.*

- *Continue innovation and demonstration support for SAF technologies, aircraft efficiency measures, hybrid, full electric and hydrogen aircraft development and airspace modernisation.’*

The government’s National Infrastructure Strategy sets out how the government will ‘*deliver an infrastructure revolution: a radical improvement in the quality of the UK’s infrastructure to help level up the country, strengthen the Union, and put the UK on the path to net zero emissions by 2050.*’ The Transport section of the Strategy explains the support that will be provided to ensure the delivery of first-of-a-kind commercial SAF facilities:

*‘£21 million will also be provided for the decarbonisation of aviation, through supporting sustainable aviation fuels and zero emission flight infrastructure. This work will be overseen by the recently established Jet Zero Council, a partnership between government and industry to drive the delivery of new technologies and innovative ways to cut aviation emissions. This will fund a one-year competition to support the development of a Sustainable Aviation Fuel (SAF) Demonstration and first-of-a-kind commercial plants. This funding will also kickstart the establishment of a clearing house for SAF, the first of its kind in Europe, to certify new fuels and develop UK expertise. The government will also consult on introducing a SAF mandate.’*

In summary, it is abundantly clear that the urgent development of SAF-producing facilities is of national and international significance in the pursuit of aviation sector decarbonisation so as to help the UK meet its statutory obligation to achieve net zero by 2050. In addition, the significant economic and socio-economic benefits that are expected to arise from a UK SAF industry will be felt locally, regionally, nationally and internationally.

## The importance of the Project in providing for the appropriate treatment of residual waste within the UK

The development will provide significant benefits by managing and recovering value from residual waste generated in the UK, providing an alternative to transporting waste to Europe for use in energy generation there. The Project is a national scheme and will be importing waste from appropriate parts of the UK. Further, the operation of the Facility would be in accordance with the waste hierarchy in that it would move the management of the UK's residual municipal wastes, away from landfill and up to recovery in the waste hierarchy, as required by the Waste (England and Wales) Regulations 2011.

It is important to note that the revised Waste Framework Directive (WFD) in relation to waste lists recovery operations in Annex II which includes 'R1 – Use principally as a fuel or other means to generate energy'. The proposed generation facility within the Project is defined as a recovery operation by the WFD and accords with this definition. This further emphasises the importance of the Project as a development primarily deriving energy products from treated domestic and commercial waste.

## The importance of the Project to aid compliance with carbon capture policies

The Government's 2017 Clean Growth Strategy – a plan for decarbonising all sectors of the UK economy throughout the 2020s – emphasised the Government's commitment to Carbon Capture, Utilisation and Storage ('CCUS') ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf)). The Strategy set out the Government's approach to CCUS [emphasis added] as follows:

*'The approach is designed to enable the UK to become a global technology leader for CCUS and ensure that Government has the option of deploying CCUS at scale during the 2030s, subject to costs coming down sufficiently.'*

*To progress this ambition, the Government has set out action under 3 themes:*

- *re-affirming our commitment to deploying CCUS in the UK subject to cost reduction;*
- *international collaboration on CCUS;*
- *CCUS innovation.'*

The Strategy established the CCUS Cost Challenge Taskforce, which reported in July 2018. This led to the November 2018 CCUS Deployment Pathway: An Action Plan ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/759637/beis-ccus-action-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/759637/beis-ccus-action-plan.pdf)) which sets out a pathway for CCUS for the 2030s. The Action Plan also made a case for the potential value of a CCUS industry to the UK economy:

*'We see an opportunity for the UK to be a global technology leader in CCUS [...] We are already well placed: innovative companies across the UK are developing cutting edge CCUS technologies; we have world leading academic institutions focused on solving key questions to reduce the costs of CCUS deployment; we have one of the largest potential carbon dioxide storage capacities in Europe; our existing industries have the skills and capability required to deploy CCUS at scale; and we are exploring investable commercial models to ensure a supportive business environment for those wishing to develop CCUS.'*

In April 2021, the government announced that the UK's sixth Carbon Budget (CB6) would enshrine in law a new ambitious decarbonisation target to reduce GHG emissions by 78% by 2035 compared to 1990 levels. The Government considers that the deployment of CCUS will play a key role in meeting that ambition. In the October 2021 the Government published its Net Zero Strategy (NZS) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1033990/net-zero-strategy-beis.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1033990/net-zero-strategy-beis.pdf)), which committed to delivering four UK CCUS clusters, capturing 20-30 Mt CO<sub>2</sub> per year by 2030, including the East Coast Cluster which includes Teesside, where the Project will be located. The NZS also commits to the delivery of at least one power CCUS plant by the mid 2020s, through Track-1 of the Cluster Sequencing Process.

The Government's British Energy Security Strategy (BESS) (<https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>) was published in April 2022 and sought to demonstrate that decarbonisation and energy security are intrinsically linked. The BESS emphasised the crucial role that gas will continue to play in the UK economy and the importance of fully utilising North Sea gas reserves to reduce the UK's reliance on imported fossil fuels.

### **Summary of Policy Objectives**

In summary, the Project would support the Government's objectives to:

- divert waste from landfill;
- generate renewable energy;
- produce significant quantities of SAF to help decarbonise the aviation sector;
- capture carbon from industrial facilities and permanently store such carbon;
- encourage the creation of jobs in the green economy;
- deliver sustainable development that has the potential to utilise rail transport to minimise emissions from transporting waste and maximises recycling of metal and inert components from the waste feedstock
- 'level-up' the UK by supporting the development of nationally and internationally significant infrastructure and jobs in the north-east of England.

### **Size and scale of the Project**

The Project not only encompasses a waste-to-SAF facility and associated generating station, but also a carbon capture plant, which will capture, and direct to storage, roughly 90 % of the carbon produced by the facility.

The engineering of the Project, although well understood by Alfanar, is complex and involves a number of different technologies. Indeed, it is expected to be the largest waste-to-SAF facility in the world that is also capable of capturing 100% carbon.

The Project Site, including SAF gasifiers, Fischer-Tropsch infrastructure, generating station, utility connections and temporary construction areas, is considerable, extending to approximately 44.5 hectares. The Project Site also involves multiple land parcels with both freehold and leaseholds interests, and we are in negotiations to secure the land and rights required to construct, operate and maintain the facility. However, it is not guaranteed that private treaty will be reached in respect to all necessary land parcels required for the Project.

The Project would involve a major investment by Alfanar in Teesside in the region of £1.4 billion. The Project would therefore make a very significant contribution to Teesside's economy during both the

construction phase and during operation, in terms of employment and local economy spend. A significant number of direct (approx. 115 full time employees (FTE) at the LGF plant and an additional approx. 120 FTEs at other facilities supporting the Project) and indirect jobs ( approx.. 600 FTEs across the UK) would be created and there would be significant supply chain opportunities for national, regional and local businesses.

The size and scale of the Project, combined with its complexity, cost and potential contribution to the local, regional, and national economy, is considered to be such that it is clearly of national significance.

### **Need for securing consent via the PA 2008 regime**

Numerous land and access rights will be required in order to construct, operate and maintain the Project. In addition, the Project Site includes or crosses a significant range of existing infrastructure and apparatus.

As outlined above, it would not be possible for the main SAF facility to be classified as associated development, for which development consent could be granted. If it is not possible to advance the entire Project through the PA 2008 regime, it would be necessary to submit a development consent application for the electricity generating station (along with some associated development) and to seek separate planning permission for the other parts of the development (including the main SAF facility) under the Town and Country Planning Act 1990. There may also be additional consents / approvals required in relation to the stopping up of existing rights / ways.

The above scenario would require Alfanar to obtain multiple consents with differing timescales and involving the input of multiple consenting bodies. The Project would have to be assessed against different policy frameworks and the time frames associated with securing the consents are less certain compared with securing a single DCO. Furthermore, it could be more difficult to obtain powers of compulsory acquisition (if required) in relation to the parts of the Project that are not currently under our control. Such powers are likely to be needed to ensure that the Project can be delivered. A fragmented approach to consenting would also introduce uncertainty and risk to the Project, such that policy makers and investors would not see it as fulfilling the aims of the Clean Growth Strategy and Government policy; this is highly likely to affect the delivery and overall viability of the Project.

In addition to the above, the need to obtain a number of consents would place a greater burden upon the consenting bodies, notably the local planning authorities, who would have to both engage in the development consent process while administering and determining separate applications for planning permission.

The PA 2008 regime was introduced to expedite the delivery of complex, nationally significant projects, such as the Lighthouse Green Fuels Project. If a direction is given by the SoS that all of the relevant elements of the Project are development for which development consent is required, this would assist LGF in delivering it in a timely manner, which would help support the delivery of the Government's Net Zero Strategy, Jet Zero Strategy, Clean Growth Strategy and its 'net zero' 2050 statutory target.

### **Summary**

LGF is seeking a direction from the SoS under Section 35 of the PA 2008 to ensure that all of the relevant elements of the Lighthouse Green Fuels Project are development for which development consent is required. Such a direction would provide LGF with certainty as to the inclusion of all the

infrastructure within any application for development consent that is submitted. It would avoid the need for LGF to obtain a number of consents with differing timescales and involving multiple consenting bodies. It would provide certainty in terms of the timing of decision-making and also provide scope for LGF to seek powers of compulsory acquisition (if required), which may be required in order to deliver the Project.

This letter represents a 'Qualifying Request' under Section 35. The Lighthouse Green Fuels Project is within the field of energy (and also involves waste, but it should be considered primarily a project in the field of energy) and would be wholly within England. The Project is also of national significance by virtue of its size, scale and complexity and in terms of how it would support key Government objectives, strategies and policies for decarbonising the aviation sector, diverting waste from landfill, implementing carbon capture and storage infrastructure and, importantly, it would provide significant local, regional and national benefits in terms of the creation of new construction and operation jobs and it would contribute to the 'levelling up' of the UK.

We should be grateful if you would confirm safe receipt of this letter. Please do not hesitate to contact us if you require any further information in relation to the Project.

**Lighthouse Green Fuels Limited**