CONTENTS

12. OTHER ENVIRONMENTAL EFFECTS

Introduction

12.1 The 2017 EIA Regulations introduced the requirement to consider land use and population[1] along with the likely significant effects of the development on the environment resulting from (inter alia) the risks to human health.

12.2 This Chapter considers the potential impacts of the proposed development on the local population and land uses of the area. It then goes on to consider how the AD facility can be constructed and operated in a way that minimises the impact on climate change. Cumulative impacts are also addressed.

Land Use and Land Take

12.3 Turning to the issue of land use and land take, the application site is currently arable land. Whilst the main AD facility and lagoons would remove the land within the application boundary from productive farmland, it is proposed to include further native hedgerow tree planting, with additional native tree and shrub planting and species-rich grassland around the Site periphery, thereby providing a net gain for biodiversity.

12.4 The land within the application boundary is classified as a mixture of Grade 2 'very good quality'. Whilst this land would be lost from arable production, the solid and liquid digestate produced by the AD facility would be used as a soil conditioner and fertiliser in the surrounding area which would boost the productivity of the land it is applied to.

Economy and Employment

12.5 The National Planning Policy Framework (NPPF) 2021 recognises the contribution that planning can make in reducing climate change. The significant increase in production of renewable energy associated with the operation of the AD facility would make a substantial contribution to climate change and cutting greenhouse gas emissions.

12.6 The proposed development would generate up to 100 jobs during the course of the construction period and between five full time jobs once operational, together with additional jobs for vehicle drivers, local suppliers who would provide services to the Site and contractors who service and maintain site machinery. In addition to these direct socio-economic benefits, the AD facility would contribute to the economy through taxes and business rates.

12.7 Contractual arrangements with local farm providers of feedstock ensure best practice within their operations and this contributes to good land stewardship and protection of the natural environment - meeting the Environmental Objective of the NNPF. These benefits to the sustainability of the

[1] Regulation 4(2)(a)

agricultural sector in the area such as supporting jobs and decarbonising operations contribute to the Economic and Social Objectives of the framework.

12.8 In summary, although the proposed development would not generate significant employment once operational, there would be a beneficial effect on the local economy as a result of the direct and indirect jobs.

Risk of Accidents

12.9 Schedule 4 of the EIA Regulations indicates that an EIA should include the expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of major accidents and disasters. Paragraph 8 to Schedule 4 of the EIA Regulations requires EIA Reports to include the following:

"A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned."

12.10 The proposed development will be subject of Hazardous Substances Consent and will operate with an Environmental Permit. following definition follows advice given by the Health and Safety Executive (HSE)[2] with regard to major accidents:

> *"An incident will be a major accident if it results in serious danger, whether realised or potential, to the natural or built environment. The effect may be immediate or delayed and may sometimes be relatively long-lasting but not necessarily irreversible. Operators should consider the potential for widespread loss or damage to the general environment as well as the risk of adverse effects on a rare, unique or otherwise valued component of our natural or built environment."*

12.11 The definition of disaster is normally considered to involve a sudden event, causing great damage and/or loss of life. A disaster can be natural e.g. earthquakes, volcanoes, hurricanes, floods, and fires, or man-made e.g., pollution, explosions, fires, and transportation accidents. Given the location of the site and the nature of the proposed development, there is a low probability of the site being affected by a natural disaster. Fire prevention measures have been designed into the site layout.

12.12 The flood risk to the proposed development is considered negligible and, therefore, in terms of both the Exception and Sequential Tests, the Site is suitable for development. It should be noted that allowances for changes to peak river flows have been considered. An 8% uplift to the 1% AEP peak river flow was therefore assessed. Results of this assessment indicate that flooding of the proposed development within the main Site would be limited to the central part of the access road.

12.13 Flood management measures in the form of culverts will be provided. These measures result in a reduction in flood risk downstream of the main Site. However, there is a limited area within the woodland to the south west of the main Site where flood risk is marginally increased. This increase

[2] The Control of Major Accident Hazards Regulations 2015

in flood risk is however considered appropriate in light of the low vulnerability use of the woodland and the decrease in flood risk immediately downstream of the Site.

12.14 If high winds were considered a danger to health and safety, site operations would be postponed and/or the site closed until safe to return. In summary, the Site is not considered to be highly vulnerable to natural disasters or extreme weather conditions and the proposed development is not considered likely to lead to a major disaster or accident.

12.15 In terms of monitoring the operational safety of personnel and reducing the risk of accident - a supervisory control and data acquisition (SCADA) system would monitor the facility overnight when it is not manned. The AD facility will include a control system linked to a Supervisory Control and Data Acquisition (SCADA) system which provides an interface for the operator to control the plant components and captures and records all the data produced throughout the process. The control system would control all aspects of the process and send out performance and error alarms to the operator i.e. notifications of flow failures, pump and temperature anomalies and error messages associated with the normal operation of the AD system. The AD plant is therefore reliably automated and secure, with component 'sources' constantly monitored via live alarm status feeds – subsequently ensuring the safety of site personnel and reducing the risk of accident.

12.16 The risk of other accidents relating to the operation of AD facilities is considered to be low as the proposed development will use known working practices and technology and operate within a highly regulated industry. Accidents in relation to the proposed development could potentially relate to:

- traffic accidents relating to vehicles travelling to and from the Site; and
- spills from vehicles moving within the Site or from plant spillages.

12.17 A detailed site audit has been undertaken to inform the transport assessment which considers the existing highway conditions. This included the following background data:

- An Automatic Traffic Count (ATC) to determine traffic volumes and actual vehicle speeds;
- A review of recorded accident data covering the most recent 5 year period on record; and
- A plan confirming the extents of the highway boundary.

12.18 The proposed access junction has been designed in accordance with CD123 DMRB, as a simple priority junction with a 15 metre junction radii and tapers at 1:10 over 25 metres. The design has been assessed in terms of HGV swept-paths; the access drawing includes swept-paths for a maximum sized articulated lorry (16.5 metres) which demonstrates that this worst-case vehicle can access and egress without any issue. Critically, it demonstrates that an HGV can gain access to the site whilst another HGV waits to egress.

12.19 The junction will include a restriction on HGVs turning right out of the access. HGVs will be instructed to turn left and then double-back at the roundabout if they are required to head west. This would be managed by means of signage and contract agreements. Additionally, the site access design has been developed during to include a splitter-island as a physical barrier. The island couldbe developed

during the detail design stages as a Trief kerb. A review of the U-turn capability of a maximum sized articulated lorry at the roundabout has also been undertaken.

12.20 The risk of an accident resulting in a spillage is considered to be no greater in relation to this development than for any other form of development that relies on the transportation of goods and materials by HGVs and tractors and trailers. The potential for significant impacts on employment, human health in the wider population or amenity as a result of a road spillage is likely to be low and any such effects would be temporary, and procedures are in place for dealing with spillages inside and outside of the application Site. Spillage kits for fuel spillages would be available at the Site and staff would be trained to use them. All fuel kept at the site would be stored in appropriately designed, bunded fuel containers to minimise the risk of spillages.

CUMULATIVE EFFECTS

12.21 In accordance with the 2017 EIA Regulations, any direct and indirect cumulative effects arising from the proposed development when considered alongside any other developments in the area surrounding the site have been considered in the technical chapters.

12.22 The objective is to identify any in-combination effects from the development or effects from several developments; and if, whilst individually the effects may be insignificant, could when considered together cause a further significant direct or indirect impact requiring mitigation.

12.23 Cumulative effects consider other proposed development within the context of the Site and any other reasonably foreseeable proposals in the vicinity. The EIA process includes consideration as to whether any of the individual effects of the proposed development would combine to create a cumulative effect greater than the sum of the individual effects.

CLIMATE CHANGE

12.24 Suffolk County Council declared a climate change emergency in March 2019, resulting in two targets, which were to be carbon neutral by 2030 and to subsequently enable residents and businesses to achieve this target by 2045 – five years ahead of the UK Government's 2050 target.

12.25 The consideration of climate change is an aspect introduced in the latest version of EIA Regulations. Under paragraph 4 of Schedule 4 an ES should (where relevant) contain "a description of the factors specified in regulation 4(2) likely to be significantly affected by the development: … climate (for example greenhouse gas emissions, impacts relevant to adaptation) ...". Paragraph 5 adds that:

> *"A description of the likely significant effects of the development on the environment resulting from, inter alia: …*
>
> *(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change".*

12.26 The UK is committed to transitioning to a low carbon economy. The Climate Change Act sets out a legal requirement for the UK to achieve 'net zero' carbon emissions by 2050. Government advice is

that increasing the amount of energy from renewable and low carbon technologies is important to:

- to help make sure the UK has a secure energy supply;
- reduce greenhouse gas emissions to slow down climate change;
- stimulate investment in new jobs and businesses.

12.27 The proposed AD facility would contribute green, carbon negative energy and support the achievement of the UK Government's and Suffolk County Council's targets for achieving net zero by 2050 (or before).

12.28 Unlike many other renewable energy technologies, the proposed development produces energy in the form of a gas rather than electricity, which allows it to fulfil a somewhat different and complementary function to other technologies:

- Renewable energy production - The proposed AD plant would produce biomethane which could be used directly to heat homes and fuel vehicles. The proposed development would provide enough green gas to meet the heating demand of 7,650 UK households (based on 14.1 MWh/y per household). In comparison with standard UK grid emissions, the biomethane produced by the AD facility would have an equivalent saving of 31,230 tonnes of CO_2 each year, equivalent to taking 20,750 cars off the road.

- Energy self-sufficiency – The UK is expected to be partially dependent on gas, for many years. The Russian invasion of Ukraine has bought into sharp focus how reliant Europe and the UK is on imported gas. The UK currently imports 52% of its gas from overseas and the current crisis has highlighted the need for greater self-sufficiency.

- Fuel poverty – The rapidly rising cost of fuel in the UK is impacting on the welfare of large numbers of people across the country. Development of additional supplies of gas within the UK will help protect against inflationary energy prices.

Vulnerability to Climate Change

12.29 In relation to the vulnerability of the Site to climate change and particularly changes to surface water flows, a flood risk assessment has been undertaken as part of the assessment on the water environment. The design of the surface water drainage scheme has also taken climate change into account and provides a surface water attenuation. Surface water run-off and flood risk would not increase as a result of this application, nor is the site at risk from flooding.

12.30 Existing mature trees and hedgerows would be retained around three boundaries of the site and a new major woodland block is proposed that will in time contribute to natural shading and provide an additional carbon sink.