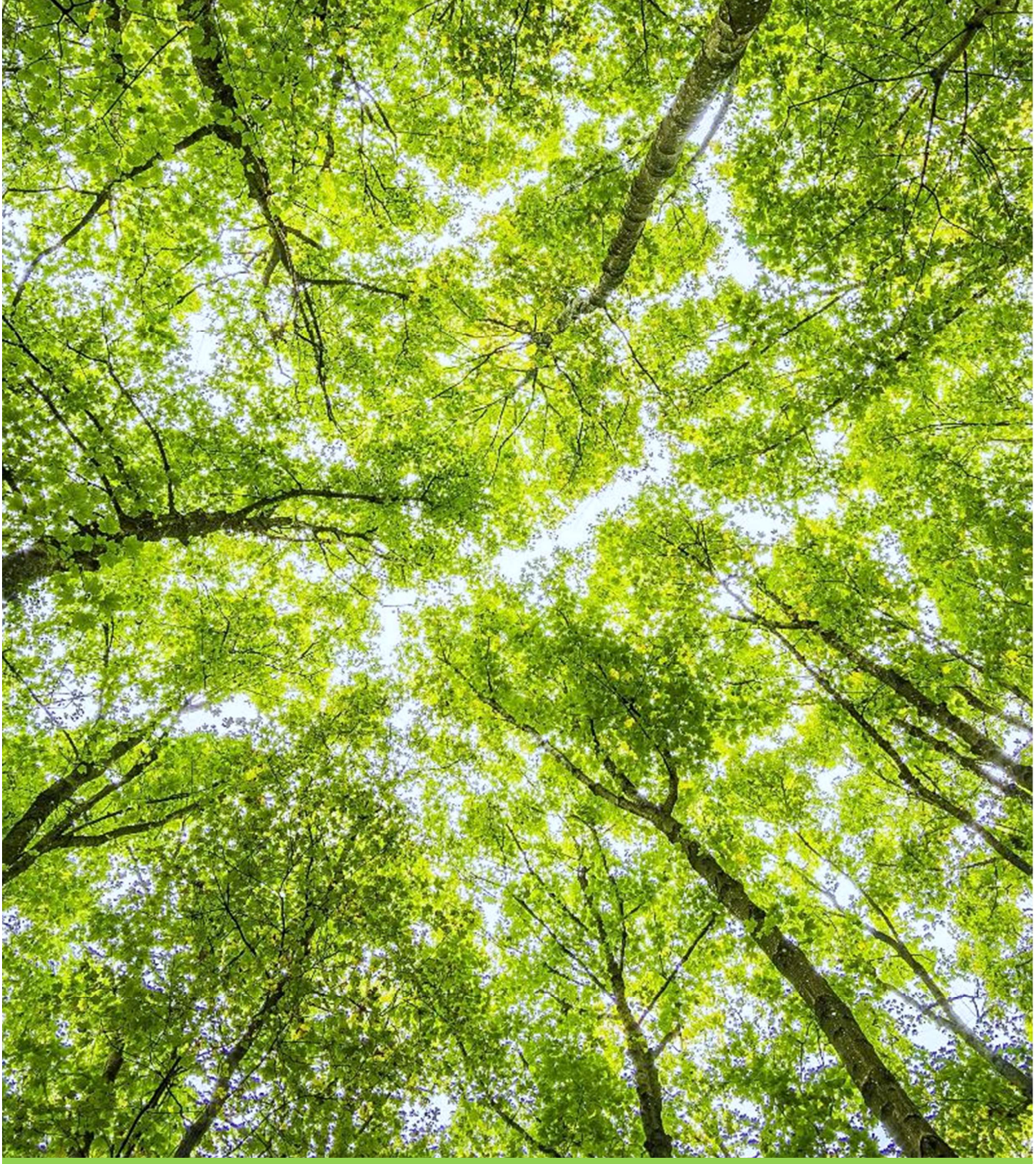

Charlton Park Biogas Ltd

Fugitive Emissions Management Plan

Report produced for Charlton Park Biogas **Ltd**

Provided by Walker Resource Management Ltd (WRM)

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0.1	15/02/2021	First Draft
0.2	31/03/2021	Internal review
0.3	23/07/2021	Client review
1.0	11/08/2021	First Issue

CONTENTS

1.0 INTRODUCTION

1.1 Site Address

Charlton Park Farm,
Malmesbury,
Wiltshire,
SN16 0HT

1.2 Operational Location

NGR ST 92795 89728

1.3 Site Description

Charlton Park Biogas Ltd will be operating the Anaerobic Digestion activity with the capacity to treat up to 50,000 tonnes per annum (tpa) of liquid food waste and broiler manure at the facility. The site is situated off the B4014, approximately 1 km outside the town of Malmesbury, Wiltshire. The site is located approximately 18 km west of Swindon and 14 km north of Chippenham.

The site is located at Charlton Park Farm and is situated within an agricultural area with farmland surrounding all sides of the site. There is one sensitive receptor within 250 m from the site, a Charlton Park Farm owned residential property approximately 90m from the site.

The transfer and treatment activities undertaken on site could give rise to fugitive emissions which require management to prevent production and release to the environment and local sensitive receptor. This management plan outlines the steps taken to mitigate the release of the fugitive emissions identified.

1.4 Fugitive Emissions Management Requirements

The preparation of this document has been undertaken using the guidance outlined in *Sector Guidance Note (SGN) IPPC 5.06, Developing a management system: environmental permits*, and *Control and monitor emissions for your environmental permit*. The typical condition regarding emissions of substances not controlled by emissions limits (fugitive emissions) on a permit is as follows:

"Emissions of substances not controlled by emissions limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or, where that is not practicable, to minimise, those emissions."

The operator shall:

"If notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan. Implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency."

1.5 Fugitive Emissions

This Management Plan addresses the need to manage the potential for fugitive emissions from the operations that may be considered as an environmental impact and a nuisance to neighbouring businesses and operations. Fugitive emissions include dust, volatile organic compounds (VOCs), mud, litter and fugitive releases to water and ground.

Fine dusts, fumes and volatile organic compounds can potentially lead to serious health impacts and fugitive leaks to ground or water can have serious effects on water supplies and aquatic ecosystems. You need to prevent or minimise these, no matter how near or far people or other receptors may be.

Other pollutants, such as coarse dust, mud and litter may be only a localised nuisance. However, you do not have the right to cause pollution or nuisance outside your site due to your activities. Your neighbours have a right to expect that your activities will not detract from their quality of life.

They have a right to expect that their environment will be free from emissions caused by your activities either on a continuous basis or at frequent intervals.

Examples of common sources of fugitive emissions are:

- Sampling activities;
- Storage areas (for example, bays, stockpiles, tanks, etc.);
- The loading and unloading of containers;
- Conveyor systems;
- Pipework and ductwork systems (e.g. pumps, valves, drains);
- Poor building containment and extraction;
- Potential for by-pass of abatement equipment (to air or water);
- Spillages;
- Accidental loss of containment from failed plant and equipment;
- Tanker and digester manhole openings and other access points;
- Displaced vapour from receiving tanks;
- Wastewater storage;
- Tank cleaning; and
- Tanker washing.

2.0 MANAGEMENT PLAN

The Fugitive Emissions Management Plan will identify sources and potential sources of fugitive emissions and will consider the risk to sensitive receptors. The Fugitive Emissions Management Plan has been produced with the intention to reduce fugitive emission causing activities as low as is practicably possible.

The Fugitive Emissions Management Plan contains:

- An assessment of the risks of fugitive emissions problems, from normal and abnormal situations, including worst case scenarios, for example of weather, temperature or breakdowns and accidents.
- The appropriate controls (both physical and management) needed to manage those risks.
- Suitable monitoring.
- Actions, contingencies and responsibilities when problems arise.
- Regular review of the effectiveness of fugitive emissions control measures.

2.1 References

The following documents are to be viewed in conjunction with the Fugitive Emissions Management Plan:

EPR-B01 Environmental Management System
EPR-OP03 Waste Treatment
EPR-C01 Accident Management Plan
EPR-A07 Odour Management Plan
EPR-C05 Environmental Risk Assessment

3.0 SENSITITVE RECEPTORS

3.1 Personnel on Site

Personnel/operatives working on site are the closest receptors to any fugitive emissions produced on site, however due to consistent working conditions it may be unlikely that operatives would be particularly sensitive to fugitive emissions or to changes/fluctuations in fugitive emissions. All operatives shall be made aware of the issue of fugitive emissions on site and should be fully conversant with the contents of the environmental elements of the Environmental Management System (EPR-A01) and this Fugitive Emissions Management Plan.

3.2 Neighbours

Neighbouring buildings and businesses (for example;) are likely to be the most sensitive receptors to fugitive emission nuisances. Dust and fumes will be particularly noticeable to neighbouring activities. Good relationships with neighbouring landowners and residents are essential in order to anticipate potential problems and avoid them, where possible, before official complaints are made. Charlton Park Biogas Ltd shall ensure:

- That all the neighbouring sites know how to contact the site if they consider fugitive emissions to be a problem (contact details will be clearly visible on the site sign along with the Environment Agency details); and
- That any complaints are recorded and that problems, where possible, are dealt with promptly.

3.3 Sites of Special Scientific Interest

There are no Sites of Special Scientific Interest (SSSIs) within 500 m of the site.

4.0 CONTROL MEASURES

4.1 Aerial Emissions of Dusts, Fibres and Particulates

There are a few activities on site that may create dust which could possibly drift off-site and cause an amenity nuisance. Such activities include:

- Delivery vehicle movements (vehicles may kick up dust brought onto the sealed road during dry weather).
- The reception, storage and movement of solid waste materials.

Site staff supervising individual material handling operations shall, during the carrying out of those operations, undertake visual monitoring of aerial emissions. On detection or notification of visible aerial emissions that are likely to be transported beyond the site boundary, immediate action shall be taken to stop the material handling operations giving rise to the emission and to suppress the aerial emission from the material. The incident and the remedial action shall be recorded in the site diary.

To mitigate the potential of these risks occurring in the first instance, the operator will ensure the site is kept clean and tidy. If any risk of dust presents itself, the operator will dampen the area down. The site has is also well surfaced with concrete which will mitigate the potential release of aerial emissions generated by delivery vehicle movements. The majority of waste transported to the site is delivered in sealed vehicles which also reduces the likelihood of dust generation.

4.2 Odour

Odour has been identified and accounted for separately within the site-specific Odour Management Plan (EPR-B03).

4.3 Control of Pest Infestations

Measures shall be implemented and maintained to control and monitor the presence of pests on the site. The AD process operates in an enclosed system which reduces the risk of pests. Charlton Biogas has a contract with a pest controlled who shall make regular visits to the site. A record of each inspection and any action taken shall be logged in the site diary.

On detection or notification of pest infestations, or evidence of such, immediate action shall be taken to secure the attendance of a professional pest control contractor, to eliminate the pest infestation. The incident and the remedial action shall be recorded in the site diary.

4.4 Control of Scavenging Birds and Other Scavengers

Measures shall be implemented and maintained to control and monitor the presence of scavenging birds and other scavengers. To mitigate the potential risk of scavenging birds and other scavengers occurring in the first instance, the operator will ensure the site is kept clean and tidy. Records of cleaning will be noted in the site diary and/or daily reports. In addition, silage is kept covered in clamps and the treatment process is carried out in a closed system.

On detection or notification of scavenging animals or flocks of scavenging birds, immediate action shall be taken to remove or deter them from the site under the guidance of sensitive fauna regulations. On detection or notification of scavenging birds, immediate action shall be taken to

secure the attendance of a professional scavenger dispersal contractor, to manage dispersal. The incident and the remedial action shall be recorded in the site diary.

4.5 Control of Litter

Liquid waste is fed directly into intake tanks and solid waste is fed directly into the digesters, which should minimise the potential problem of windblown litter from the site. Staff will inspect the site daily and remove any litter which has accumulated from site activities and from the digester process. Any actions required following a site inspection will be recorded in the Site Diary. In the event that litter does escape from the site, it shall be retrieved as soon as is practicable, and no later than one hour after the end of the working day.

4.6 Surface Water Control

Any surface water generated on site will be collected by the site's drainage system and be directed to the local sewer network. The site's drainage system is detailed in the *Drainage Management Plan* (EPR-B04).

In the event of any damage occurring which breaches the integrity of the containment system so that it no longer meets the specified standards, the permit holder shall cease importing or treating waste in the affected area and notify the EA immediately. Importing and treating of waste shall only recommence once the affected area has been repaired to a comparable standard as per the original specification.

4.7 Rainwater Control

Rainwater that falls on building roofs is collected via gullies, spouting and down-pipes. The rainwater is then pumped to the white-water attenuation pond.

4.8 Fugitive Emissions to Groundwater

The site is situated on an impermeable surface with a sealed drainage system. The majority of the site is located within an area of low groundwater vulnerability above a Secondary A aquifer.

4.9 Biogas Release

The system is gas tight which means that under normal operating conditions there are no gas releases to the atmosphere.

The site will operate use a flare for emergency operations to prevent the venting of biogas during CHP downtime. Gas pressures are monitored, and regular checks are taken to identify any potential leaks.

4.10 VOCs

The vast majority of gas produced is upgraded and injected into the grid. The emissions of VOC's not upgraded and injected into the grid can be minimised through good combustion control. Fugitive emissions of VOCs are prevented by the sealed tanks. The site will operate a CHP and use a flare for emergency operations to prevent the venting of biogas during CHP downtime.

The digestate stored in the lagoon has been treated and is therefore stable which reduces the emission of VOCs.

4.11 Adverse Weather Conditions

Adverse weather conditions are unlikely to have a significant impact on the operations at Charlton Biogas Ltd, however extreme weather conditions are detailed below:

Table 1 – Impacts of extreme weather

Weather Condition	Impact
Heavy rainfall	All liquid waste is transferred directly into sealed tanks where operations take place. Solid waste is stored in covered clamps. In the event of continuous heavy rainfall all material processing operations may continue subject to site risk assessment.
Strong winds	Strong winds will not affect onsite activities, as they take place within an enclosed process and solid waste is stored in covered clamps. Strong winds may blow dust across the site access road if strong winds occur in conjunction with high temperatures.
High temperatures	High temperatures may increase dust emissions if coinciding with strong winds. The site will follow appropriate measures to suppress dust e.g. dampening.
Snow, frost and ice	Snowfall, frost and ice are unlikely to affect Fugitive Emissions.

4.12 Accident Management

Accident management has been identified and accounted for separately within the site-specific Accident Management Plan (EPR-B07).

4.13 Site Spillages

Any spillages that occur on site are dealt with in accordance with the site's Accident Management Plan. Personal Protection Equipment, First Aid kits and Spill kits are located at strategic points around the site to deal with the types of spillage likely to occur in the vicinities of each area of the site.

4.14 Housekeeping

Good housekeeping practices on site will minimise the potential for fugitive releases. These will include:

- Regular inspection of drainage system and cleaning when deemed necessary;
- General housekeeping and inspection procedures maintained;
- Cleaning of all surfaces which come into contact with feedstock material on a regular basis;
- Ongoing maintenance of site surface and site boundary; and

- Ongoing maintenance of site plant and machinery.

Housekeeping measures are detailed in the Environmental Management System (EPR-B01) and Clean Down Procedure (EPR-OP06).

5.0 MONITORING

Charlton Park Biogas will ensure, by the implementation of a monitoring plan, that fugitive emissions from the site are limited and where possible stopped and that by effective mitigation the impacts of any fugitive emissions shall be reduced. The monitoring of fugitive emissions shall include:

- Daily site walkovers;
- End of day litter checks/picks; and
- Prompt responses to any complaints.

Operatives shall continue to be fully conversant with the contents of the Permit, the Management System and Fugitive Emissions Management Plan and will be relied upon to remain observant and to draw attention to any non-conformances, adverse operating conditions and any mitigation or management failure.

Records shall be kept of any monitoring/inspection carried out.

5.1 Monitoring Records

Charlton Park Biogas shall keep records of site inspections. Any adverse operating conditions, non-conformances, complaints and mitigation/management failure resulting in an accident or non-compliance with the Permit shall be recorded in the site diary.

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