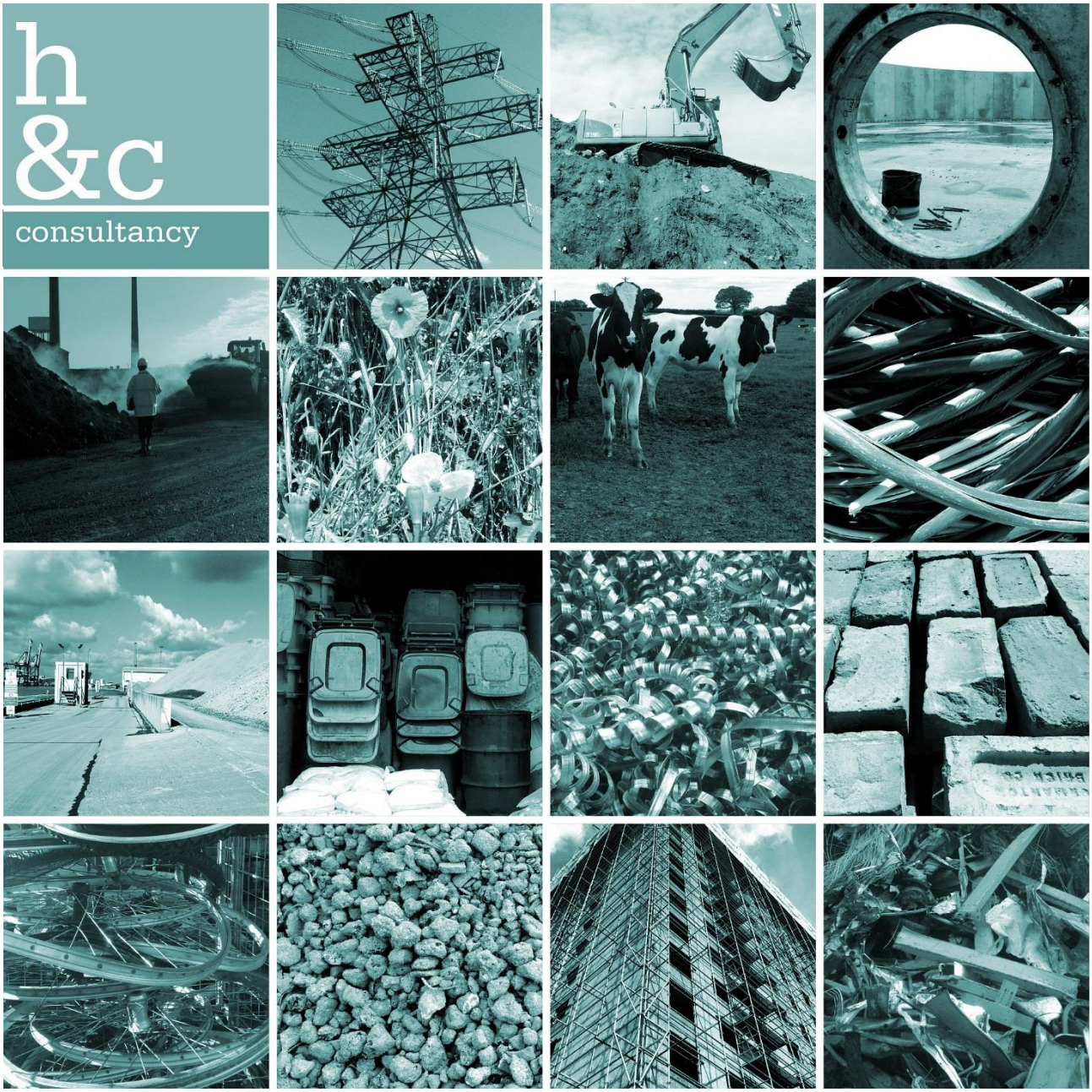
BIO DYNAMIC UK LIMITED
PERMIT VARIATION APPLICATION

Non-Technical Summary

July 2022



Client: Bio Dynamic UK Limited

Document Reference: HC1677-07

REPORT SCHEDULE

Operator: Bio Dynamic UK Limited

Client: Bio Dynamic UK Limited

Project Title: Bio Dynamic UK Limited Permit Variation Application

Document Title: Non-Technical Summary

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APPROVED	
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Final Version 1.0	19th August 2022	For submission to EA	Maxwell Bagnall
Final Version 1.1	24th April 2023	Update site configuration	Maxwell Bagnall

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1. NON-TECHNICAL SUMMARY

1.1. Non-Technical Summary

1.1.1. The Bio Dynamic (UK) Limited AD Plant is an anaerobic digestion (AD) facility, with an annual throughput of up to 150,000 tonnes. As the site can take in animal by-products significantly above 10 tonnes per day, the installation is permitted as a Section 6.8 A(1)(c) listed schedule activity:

"Disposing of or recycling of animal carcasses or animal waste, other than by rendering or by incineration at a plant with a treatment capacity exceeding 10 tonnes per day of animal carcasses or animal wastes or both in aggregate".

1.1.2. Most of the waste received is processed through the main AD treatment process at the site. A proportion of the waste received is received, stored, and treated (de-packaging, shredding, bulking, and screening) for dispatch from site to be processed as an AD 'soup' at other AD operations.

1.1.3. The treatment and dispatch activity will apply to approximately 20,000tpa of wastes with the remainder (130,000tpa) going to the AD process on site.

1.1.4. Wastes are received via a weighbridge in a steel framed waste reception building and associated liquid wastes storage tanks situated outside the building where reception and pre-treatment of waste takes place.

1.1.5. Packaging is removed from packaged solid wastes in the main reception building prior to mixing and blending with other liquid wastes and/or water to create a pumpable slurry. The waste is macerated to 12mm before being passed into one of two pasteurisation vessels where it is held at a minimum of 70ºC for a minimum of one hour.

1.1.6. Pasteurised wastes are passed to a buffer tank which passes a regular and consistent flow of feed into the two primary digesters. After being held in the primary digesters for a minimum retention time, the digestate is then passed into the secondary digester. A second secondary (post) digester tank is intended to be included at the site under the phase 2 development plans.

1.1.7. The biogas produced as part of the AD operations is stored in gas roofs above the three digesters and used to operate combined heat and power (CHP) engines on site, which are located within insulated containers. There are four CHP engines in total at the site, two which were installed when the site was first developed, and two new engines installed as part of the ongoing refurbishment project. The two original engines are considered existing Medium Combustion Plant under Section 25A of the Environmental Permitting Regulations. The two more recent additions are new plant.

1.1.8. Biogas is also exported to the adjacent BD Gas Permits Limited Biogas Upgrading Unit for upgrading to biomethane and injection into the national gas grid network.

1.1.9. Out of spec or excess unburnt biogas arising from atypical site operations is returned to the AD plant storage or may be burnt in one of the two emergency flare units at the AD site.

1.1.10. Condensate arising from treatment of gas in the biogas upgrading facility next door is collected and returned to the AD plant for re-circulation within the process.

1.1.11. The site is also fitted with a backup dual fuel (biogas/diesel) fired boiler that can produce heat for the onsite tanks in the event of CHP downtime.

1.1.12. Air is extracted from the waste reception building and is directed to an odour abatement system for treatment prior to release to atmosphere. Other localised abatement units are also in use at the site to treat displaced air from the waste reception tanks and the digestate tanker offtake area.

1.1.13. Digestate arising from operations is currently certified to PAS110 standard and dispatched from site as an end of waste product biofertiliser for use in agriculture.

1.1.14. As part of the ongoing site refurbishment, the operator intends to install a further post digester and gas tight digestate store. These tanks are scheduled to be built in the ‘phase 2’ construction phase at the site.

1.1.15. Water for onsite usage is obtained from an onsite borehole and from rainwater harvested from roofs and concrete surfaces at the site.

1.1.16. Raw materials associated with site activities are stored at the site in suitable storage facilities.

1.1.17. Domestic sewage is collected in a sealed cesspool and dispatched from site via tanker.

1.1.18. The site is operated according to a documented Environmental Management System (EMS) which is reviewed and updated on a regular basis.

1.1.19. The site is located at the eastern end of the north side of Private Road No. 4, Colwick Industrial Estate, NG4 2JT, NGR SK 63425 39835, and extends to approximately 1.4 ha in area. There are no protected ecological sites within the relevant screening distances from the facility.

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