

Climate Change, Energy and Resource Use

Energy Efficiency

Appropriate measures are taken to ensure the efficient use of energy. As much as possible, heat and electricity are provided by the CHPs on site from the biogas produced in the AD process. This limits the amount of energy imported to the site.

All heat and power provided by the CHPs is either used on site to power the plant or is exported to the grid, ensuring there is no wastage. All plant is serviced in line with manufacturers' requirements to ensure optimal performance and energy usage as a result.

In terms of improving energy efficiency, at the end of each year, energy input figures are checked to ensure that import figures are not increasing and that we are not importing more electricity from the grid than is necessary, given the presence of the CHPs on site.

Enfield Farm AD currently produces 600m³ of renewable biogas per hour and this is enough biogas to provide renewable electricity for 2,300 homes and gas for 4,600 homes.

With the proposed permit variation, we are seeking to increase the amount of feedstock entering the plant. As a result, the amount of renewable biogas produced will rise to nearly 1500m³ per hour. There will be more heat and electricity produced for use on site, minimising our imports further. We will also have the capacity to supply close to double the current amount of homes with electricity and gas.

Raw Materials

Appropriate measures are taken to ensure the efficient use of raw materials and water on site. Appendix C is our raw materials inventory which shows the quantities of various materials are consumed by the plant.

There is very little waste produced as a result of our operations. Notably, spent carbon is produced from the carbon filters on the gas upgrade system once saturated. Waste oil is also produced by the CHPs on site. Of the waste produced, we are able to send the engine oil for recovery. The carbon is currently sent to a hazardous waste landfill for disposal.

The raw materials inventory is checked each year but does not vary a great deal given that the plant has specific capacities.

We continuously improve on efficiencies with regard to feedstock and provide regular sustainability figures to Ofgem. Significant improvements have been made with regard to our silage losses. A big driver here was to move from using field clamps to more on site permanent stores which can be properly compacted and sheeted to reduce losses and increase biomethane potential.

Water is in part provided by a borehole and consumption by the plant is recorded annually. In reality, very little is used as the site benefits from a surface water lagoon. Water from the surface water lagoon is incorporated into the diet of the plant.