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Use of raw materials

The facility will use vegetable outgrades, green crops and commercial wastes to generate biogas for the production of electricity, heat and digestate. All digestate materials will be used by Manor Farm, the landowners of the plant. The main feedstock for the plant will be the vegetable outgrades from the existing farm activities, but will also be supplemented with maize silage and similar commercial biodegradable wastes.

The majority of the electrical energy generated will be exported to the surrounding farm (i.e. Manor Farm, owned by A. H. Worth & Co Ltd) and to the national grid. In any one year, approximately 13,000 MWh will be produced of which it is estimated that only approximately 10% of this is used to power the plant. The facility uses its own self-generated heat to maintain the process tanks at temperature. The volumes of raw materials used by the facility are minimal as the main fuel source is the green waste itself. The CHP is under a full operation and maintenance contract (O&M) and therefore will be serviced and inspected frequently to ensure they are operating at maximum efficiency. Furthermore, the gas quality will be monitored and controlled to maximise the life span of the oil and subsequently minimise the number of oil changes required.

In addition to the lubrication oil for the CHP, diesel will be required for the operation of site's telehandler and as a backup for the standby generator. It is estimated that approximately 15 liters of diesel per operational day will be required to operate the two forklifts. The standby generator would be for emergency use only and therefore the volumes required for this would be nil or minimal.

The design of the installation incorporates a rainwater harvesting system which will reduce the volume of mains water required for operations. The mains water usage is mainly used on the gas cleaning unit and is monitored regularly. Furthermore, the system has been designed to minimise the volumes of water required, one way in which this is achieved is by the recirculation of digestate where liquid is required at the front end.