



Sharpness

Rotary Drum In-vessel recycling centre

New Earth Solutions is a specialist business dedicated to delivering sound technical and environmental solutions to the UK's waste problems.

Driven by the outcomes of the Kyoto Protocol on Climate Change, New Earth Solutions has developed a wide range of technologies and processes designed to recover value from waste and to mitigate its impact on the environment.

New Earth acquired the fully enclosed in-vessel composting facility at Sharpness in 2009. The facility has a throughput capacity of 48,000 tonnes per year.

The Sharpness facility utilises an advanced biological treatment process to convert biodegradable material into a high grade compost.

Our innovative composting process incorporates accelerated composting in slow rotating drums and controlled pasteurising. All elements of the New Earth process are fully enclosed and equipped with a comprehensive emissions control and treatment capability.

The New Earth composting process has been evaluated as making a significant contribution in reducing greenhouse gas emissions associated with the disposal of biodegradable wastes.



Sharpness
recycling centre

Type of Waste Processed

- Green waste (lawn and hedge cuttings, leaves etc)
- Green and kitchen waste co-mingled
- Kitchen waste, food leftovers, vegetable waste
- Soils
- Paper (shredded, un-shredded, clean and dirty)
- Cardboard (shredded, un-shredded, clean and dirty)
- Wood (un-treated)
- Gypsum, plasterboard
- Paper sludge, paper crumb etc from a paper mill
- Category 3: Catering Waste

Category 3 - Catering waste as defined by the Animal By-Product Regulations (2005)

"Catering waste means all waste food including used cooking oils originating in restaurants, catering facilities and kitchens, including central kitchens and household kitchens. This definition also includes catering waste from vegetarian restaurants and kitchens".

● Sharpness

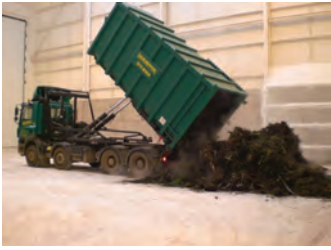
Other New Earth
Solutions facilities:

● Operational

● In planning



The Process



Waste Reception Delivery vehicles are directed to the reception airlock which has washing facilities, weighbridge and extraction fans. Vehicles reverse into the reception area and discharge the waste onto the floor before returning to the airlock, where they must wash thoroughly before leaving. During this time the odorous air from the airlock is being sent for cleaning.



Emissions Control The process building is maintained under negative air pressure. Air is extracted from within the building via large fans and is then ducted to a two stage chemical scrubbing process which comprises two scrubbing towers which 'wash' the air. Monitored air is then released to the atmosphere through a light aggregate and wood chip bio-filter.



Loading Primary Composting Vessels (PCVs) are slow rotating, large steel drums 24m long and 4.5m wide. Conditions are optimum for composting with temperatures typically at 45-50°C. Shredded waste is loaded at one end and moves down the vessel for 3-4 days before it is unloaded onto screens, separating oversized waste for re-shredding and recomposting.



Pasteurising Screened material is loaded into the Secondary Composting Vessels (SCVs) for a minimum time of 135 minutes at a minimum temperature of 71°C, an Animal By-Product Regulations (ABPR) requirement. This is a batch process where time and temperatures are recorded using electronic probes which transmit data to the site control computer.



Dispatch Once the ABPR requirement has been met, pasteurised compost is moved from the SCVs into short term maturation windrows within the Clean Area. Vehicles enter the clean area via the dispatch airlock which has washing facilities, weighbridge and extraction fans. A telescopic handler loads the vehicles before they transport compost off site to the end user.



The Compost The end product is a high quality, sanitised compost. We maintain comprehensive records on all the compost we produce, giving complete traceability. All our products are subject to rigorous laboratory testing. The compost is PAS:100 certified.



Application to Land The compost is predominantly used in arable rotations where the high nutrient level allows local farmers to significantly offset their requirement for artificial fertiliser and hence reduce their carbon footprint. Compost also improves the fertility, structure, water-holding capacity and organic matter content of the soil.

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