



# Cotesbach

Mechanical Biological Treatment (MBT) facility

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.

Cotesbach is the latest New Earth facility to be built and began operations on 1st October 2010. It has been constructed on part of a third-party landfill site near Lutterworth, Leicestershire.

The facility has capacity to treat 50,000 tonnes of municipal household waste each year and is underpinned by a 45,000 tpa contract to treat Leicestershire County Council's residual household waste over a 5 - 7 year period.

New Earth have utilised the latest mechanical sorting equipment in this, its second MBT facility to become operational. Cotesbach will also exploit the breadth of experience New Earth has gained in operating its Canford MBT facility, with all New Earth's key features, including full enclosure of all processes, advanced biofilters and automated monitoring and control systems. It is among the most advanced facilities in the UK, delivering unparalleled levels of efficiency.



Cotesbach Facility

## What is MBT?

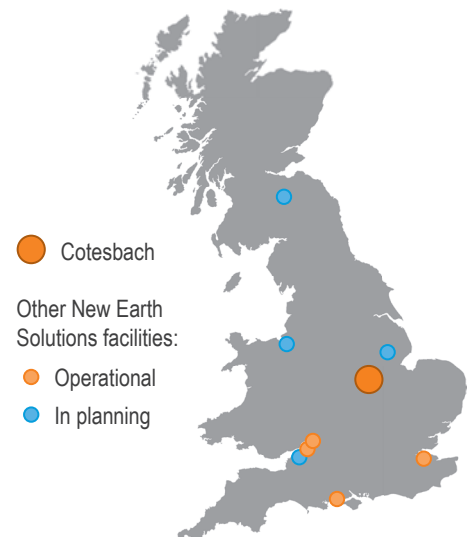
The New Earth process at Canford utilises Mechanical Biological Treatment. In the mechanical stage, materials such as plastics and metals are recovered from the waste and sorted into valuable recycling streams. Biodegradable waste is also separated for further treatment.

In the biological stage the biodegradable waste is composted in a fully-enclosed, controlled environment, to produce a useful land remediation compost.

The MBT process can also produce a refuse-derived fuel suitable for use in low-carbon renewable energy generation.

## Type of Waste Processed

The facility processes non-hazardous mixed municipal waste from local authorities.



# The Process



**Initial Preparation** Upon delivery waste undergoes sorting to remove any oversized items that cannot be processed. Extracting recyclable materials then begins by passing the waste over a long particle separator, a large screen that removes smaller particles known as 'fines'. These then go to the bio-stabilisation halls for processing.



**Sorting** The remaining waste is sorted using various machinery. These include magnets to extract ferrous metals, a windsifter to sort light waste from heavy and optical sorting to identify different plastics by polymer type.



**Bio-stabilisation Halls** The fines and shredded waste is stored in long heaps, or 'windrows', in fully enclosed halls for a period of 6 weeks. The composting process is self-heating, with the irrigation and oxygen carefully controlled to give the optimum environment for the micro-organisms present in the waste to break down the organic material.



**Screening** After the processing is complete the material is then screened. This process removes the remaining plastics, unwanted compounds or any other material that hasn't readily composted from the finished product.



**The Product** The resulting material, branded 'nutri-9', can be used to regenerate brownfield or landfill sites. Oversized biomass can form part of a refuse-derived fuel for use in low-carbon renewable energy facilities such as the ones New Earth Energy is developing.



**Automated Control System** The facility operates a Continuous Emissions Monitoring System which enables full control of the process environment as well as monitoring the emissions into the air outside. This system exceeds all required monitoring standards and is assessed regularly by the Environment Agency.



**Emissions Control** Facilities are held under negative air pressure, helping to draw air inwards when doors are opened and minimise air escaping from the buildings. Cotesbach also has a sophisticated emissions control system incorporating a chemical air 'scrubber' and a final wood chip bio-filter before air is released to the atmosphere.



**Animal By-Products Regulations (ABPR)** In order to meet the ABPR requirements the material must reach a temperature of at least 60° C for a minimum of 16 days while being turned every 48 hours. This is monitored by electronic probes inserted along the length of the windrow, sending data back to the automated control system.

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