

## Engineered Landfill

A landfill is constructed to include containment systems & structures designed to protect the environment. These measures include lining systems, gas pipes, rain water collection control and monitoring boreholes.

Throughout the day the landfill is progressively compacted and covered with layers of cover material such as soil. These layers help to reduce odour produced by the waste, minimize wind blown materials and deter scavengers, such as rodents, flies & birds. At the end of the day the operational area of the landfill is completely covered with a layer of this cover material.

Waste in landfills is naturally broken down by microbes under anaerobic (absence of oxygen) conditions. This decomposition combined with rainwater filtering through the landfill, results in the production of liquid (leachate) and gas. Leachate is contained by the lining system of the landfill and pumped and extracted through pipes which deposit it into the bio treatment lagoons.

The gas produced by the landfill is predominately a mixture of carbon dioxide and methane. This gas is extracted through a series of pipes, directed to our on-site energy generation plant, where it is converted into electricity and exported to the National Grid. Monitoring boreholes across the site regularly monitor the levels of leachate and gas in and around the landfill and ensure that the containment systems are working effectively. The leachate collection system is controlled by a sophisticated computer system (SCADA system). The system contacts remote points across the site gathering leachate data and setting a pumping time for the pumps that are required to run. The control system allows us to pump the leachate across the sites into the treatment lagoons for final processing.

When the landfill reaches maximum capacity it is capped, covered with a final layer of cover material, clay & vegetation. This final layer forms a barrier keeping odours in and rain water out. It provides a suitable surface for future use in recreation and light cultivation.

Electricity production from the landfill gas will continue for many years after the landfill has been completed. Containment, control and processing systems stay in operation for up to 25 years after closure, ensuring that the landfill's stability and the protection of the environment.



Looking for a grant for your local community or environmental project. Yorventure is an independent not-for-profit Environmental Body that distributes grants through the Landfill Communities Fund with landfill tax credits generated by Yorwaste.

### Contact information

Yorwaste Ltd  
Mount View, Standard Way  
Northallerton DL6 2YD

T : 01609 774400  
F : 01609 772327  
E : [info@yorwaste.co.uk](mailto:info@yorwaste.co.uk)

Speak to an adviser : **0845 3008889**  
[www.yorwaste.co.uk](http://www.yorwaste.co.uk)