

# Case Study

## Bentotex Geosynthetic Clay Liner (GCL) & Envirogrid

### **Location:**

Bourne Estate  
Piddlehinton  
Dorset

### **Client:**

ECO Sustainable Solutions Ltd

### **Project:**

Anaerobic Digestion Plant



### **Contractor:**

Mark Farwell Plant & Contracting.

**ECO Sustainable Solutions identified a need locally in Dorset for an anaerobic digestion plant. The proposed site had a limited footprint available. In order to proceed with the development as planned and utilise the Bentotex GCL 100 as the containment layer of choice, some engineering and installation details needed to be considered.**

Early concerns about cat-ion exchange due to the "Chalky" alkaline nature of the underlying soil were laid to rest by a laboratory test report. The Bentotex was put forward initially because of its ease of installation and its self-healing properties.

Bentotex GCL is lapped and sealed using Bentotex granules; it does not need specialist welding like a traditional manmade liner.

If the full site footprint was to be made available, the batters at the perimeter of the bunded area needed to be > 45°. This presented a problem with the 300mm of required cover over the Bentotex GCL; It is difficult to retain the fill on a slope greater than 30°. To enable the use of Bentotex GCL we put forward a solution that employed the use of our Envirogrid cellular confinement system.

The proposed solution using Bentotex GCL in conjunction with Envirogrid had benefits to both client and contractor:-



- Full site footprint could be utilised
- One contractor could complete the entire installation
- The GCL provides a resilient secondary containment liner
- The desired green finish could be achieved around the site perimeter.

When commissioned and working the plant will produce renewable energy by handling a large percentage of Dorset Counties food waste as well as providing high grade fertiliser material to nearby farms.

### ***The benefits of using Bentotex GCL in this case were:***

*Full site footprint could be utilised,*

*One contractor could complete the entire installation as it does not need specialist welding like a traditional manmade liner.*

*The GCL provides a resilient secondary containment liner due to its self-healing abilities,*

