

Sanitation Project in Sierra Leone



Flexigester for Faecal Treatment in Freetown, Sierra Leone

SOWTech
Sustainable OneWorld Technologies

A Flexigester V10 was donated by Butyl Products Ltd to Practical Tools Initiative in 2015. This Flexigester was destined for an Approved School in Freetown, Sierra Leone. It was shipped in the January in a container loaded with tools and other equipment including a car. From there it was delivered to the Approved School outside of Freetown for installation in the school grounds.



The Flexigester sanitation facility was designed by Sustainable OneWorld Technologies C.I.C. (SOWTech) and fabricated by Butyl Products Ltd. It was donated by Butyl Products to Practical Tools Initiative for the Approved School that they work with on the outskirts of Freetown, Sierra Leone.

The Flexigester Faecal Treatment System supplied was composed of three parts; anaerobic digestion, gas storage and digestate reuse.

The Flexigester was attached to the toilets in the latrine block. The waste from the pour-flush toilets flows into the Flexigester where it is broken down by anaerobic digestion to give biogas and a liquid output. Food and kitchen wastes are also added to the digester.

The biogas generated is a sustainable fuel which can be used as a fuel for cooking in the kitchen to replace wood and charcoal which are an ever decreasing unsustainable supply.

The liquid from the Flexigester was used on the crops grown in the school gardens as a nutrient-enriched liquid to improve the fertility of the soil and increase crop yield.

The Flexigester is made from butyl rubber which enabled it to be packed into standard packing crates. It was sent by sea

freight in a container packed with other tools and equipment for the school.

Once on site the complete system was erected by the school attendees under the supervision and guidance of the Practical Tools Initiative members. The UK representative said

“Just returning back from Sierra Leone..... after overseeing the digging of the trench at Approved School in Freetown and the preparation for the installation of the Flexigester.

By the time I got there, Mamson [the Project Coordinator for Practical Tools Initiative in the Western Area in Sierra Leone] had studied the Flexigester well (even seeking further information about the Malawi project).

The plot where he located the Flexigester is ideal and the team were very enthusiastic about it. The trench is now complete. All that has to be done is to get the plumber to do the connections and get it going.”

Having been installed in June/July the Flexigester was up and running and the gas was being collected by the middle of September. The liquid digestate was being applied to the school gardens to improve the nutritional content of the soil for the use of the crops being grown.