

Environmental Energy Ltd: Value Proposition

Environmental Energy Ltd.

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Company Profile:

Environmental Energy Ltd was set up by Demetris Lordos, in order to develop and commercialise environmental systems for the efficient treatment of wastewater in the agricultural, industrial and tourism sectors.

Anaerobic Digestion: Closed System

Environmental Energy Ltd. developed a closed anaerobic digestion system, specifically tailored to the hotel industry in Cyprus. The anaerobic digester receives all the wastewater and organic waste from the hotel. Within the system:

- The organic content is significantly reduced by conversion into gaseous end-products
- The obnoxious odour of the sludge is removed and the final digested sludge has a characteristic 'tarry' odour
- Fats and greases are broken down
- The amount and potency of pathogenic bacteria is significantly reduced.

The resultant digested sludge liquor contains relatively high levels of ammonia but is potentially suitable for agricultural use. Biogas produced by the process (a mixture of carbon dioxide and methane) can be used for digester heating or to generate power. The system is currently being trialled as part of the renovation of the Lordos Beach Hotel.

Value Proposition

Environmental Energy Ltd. has created a strong value proposition for the hotel market:

Financial

- Anaerobic digestion is a relatively stable process if properly controlled, with low operating costs and the production of useful by-products in the form of sludge liquor and biogas
- Reduction in effluent costs through in house wastewater management.

Environmental

- Substantial reduction in freshwater water consumption through use of sludge liquor for irrigating the hotel's garden and flushing the toilets.
- Substantial reduction in energy consumption through use of the biogas for heating and cooling. It is estimated that this can cover the thermal and cooling requirements of a hotel.
- Substantial reduction in organic waste going to landfill.

Operational

- The digestion process is continuous and fresh feed must be added at frequent intervals. There is the potential for a number of hotels or other sources of feedstock to act together to provide sufficient resource to the plant and to share in the benefits.

Reputational

- Creation of hotels that combine responsible tourism with low environmental impact.