

Ethanol Gelfuel as Efficient Alternative Energy Source

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The large-scale replacement of firewood and charcoal by Ethanol Gelfuel in Malawi offers the opportunity to alleviate major health, social and environmental problems currently afflicting the country such as the deforestation of vast areas of the country and respiratory diseases due to indoor charcoal use. Ethanol Gelfuel provides a safe, spill-proof, non-toxic, smoke free and efficient alternative energy source for the urban poor who are the main consumers of charcoal in the country.

History

D&S Gelfuel Ltd was incorporated in Malawi in 2002 to provide a realistic, affordable energy alternative to firewood and charcoal for cooking. The Gelfuel that the company produces is an ethanol based product with the ethanol and indeed 90% of the ingredients being sourced in Malawi itself. The product is a thick green jelly which is utilized by being poured into a purpose made burner, not unlike the traditional “fendu stoves”, and lit. It provides an extremely safe, spill-proof, non-toxic, smoke free and efficient alternative energy source for the urban poor in Malawi who are the main consumers of charcoal in the country. It is estimated that up to 50 000 ha of forest is annually lost in Malawi due to the incessant demands for firewood and charcoal. Currently 98% of Malawi’s energy is derived from firewood and with a rapidly increasing urban population this percentage of use is totally unsustainable.

With Gelfuel it seems that at least some of the major issues can be addressed such as the endemic problem of respiratory diseases due to indoor charcoal use in the urban centres and the deforestation of the country with its attendant social and economic problems (decreased soil fertility, increased flooding, interference of power supply, and increased CO2 emissions). D&S Gelfuel Ltd has been working very closely with the Government of Malawi to waive all duties and taxes on Gelfuel in order to make it affordable to the poor, with encouraging results. Today, Gelfuel is available in major stores in the urban centres of Malawi and has been widely accepted by the urban and peri-urban population.

The Future

With the current power rationing causing a massive demand for charcoal, Gelfuel is the only realistic large scale alternative for cooking in Malawi and D&S Gelfuel Ltd is rapidly gearing up its operational output in order to meet the market demand which has been created by the shortage of electricity. With the help of grants from the Government of the Netherlands, DANIDA and sponsorship from Toyota Malawi the company is currently capable of producing 15 000 litre of Gelfuel per week with immediate plans being implemented to double capacity by the end of April 2003. The mechanisms for the outreach of Gelfuel into the peri-urban and rural areas have been investigated and a decision was made very early on to attempt to utilize the existing sales structures already in use by the current charcoal sellers by simply converting the charcoal sellers to Gelfuel retail. This approach would have the added advantage of providing an alternative and guaranteed source of income for the charcoal sellers which in turn would encourage them to convert rapidly without depriving them of their much needed income. Gelfuel is available in any quantity wholesale from the factory to allow small scale businesses to access this eco-friendly technology and D&S Gelfuel is committed to helping the start-up of Malawian small scale businesses in order to minimize overhead costs, improve micro-economies in urban areas and minimize the end cost of Gelfuel.

The long term plans of the company are to provide enough Gelfuel to the market to replace 30% of the charcoal industry over a 5 year period. This would entail the building of a purpose made factory close to the source of the ethanol to keep production and transport costs to a minimum. D&S Gelfuel Ltd is also determined to continue to work closely with the Government of Malawi in various social and economic programs to improve the availability of modern clean renewable energy technologies to the urban and rural poor in the country at an affordable price. This would include partnerships with various NGO’s and donor agencies with experience in the manufacture and outreach of new technologies into primary care institutions, schools, local markets, prisons as well as aggressive marketing in charcoal production areas in Malawi.

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