



Business Finance Services Ltd

Our clients come first and stay

Web Brief

Bio-tech/Eco-fuel generation

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Summary

We have been approached by a leading UK based biotechnology and bio-energy R&D company who are seeking £200,000 to support the Company's delivery of proven clean technology and to progress their existing pipeline, thereby establishing them as a major player in the emerging Biotech Industries.

The Business

The Company was established in 2008 with the primary objective of developing a worldwide business based around the company's primary technology for the enzymatic conversion of waste (municipal and animal) to fuel alcohol. The biotechnology can be used to create stand alone processes or integrated into existing systems to increase efficiency. The process has recently been extended to include the generation of methane which can be utilised to generate electricity or compressed into fuel.

A management team has been established that combines the skills and knowledge of a number of experts covering a range of disciplines from Biotechnology research to Business Management.

Our client has strong collaborative links with academic institutions such as the Institute for Food Research and the University of East Anglia, the John Innes Centre, Imperial College London and the University of Sussex in particular, enabling both access to cutting edge academic research and the opportunity to contribute to such research from a real world perspective.

The company currently operates from premises on the outskirts of Norwich.

The Process

The Company has a patent pending for enzymes to undertake low temperature, non toxic degradation to convert organic sugars into ethanol, butanol and bio gases to produce electricity. The process also generates a non toxic solid by-product that can be used as a biomass fuel or as a soil additive. The actual enzymes introduced into the waste product determine the ultimate end product.

This process offers a number of significant advantages as follows;

- Reduction /elimination of waste disposal costs e.g. less waste entering landfill.
- Generation of high value bio energy products.
- The ability to produce a variety of end products depending upon the enzymes used.
- Reduction of carbon footprint.
- Improvement to the efficiency of existing processes.
- It has the potential to reduce competition over land to be used to grow food rather than bio fuel crops.

The Market

The commercialisation of green technology is very popular with governments through to food manufacturers, all who have to deal with large volumes of waste and have limited funds to use landfill sites to dispose of their waste. By working with large corporates (supermarkets, fast food outlets, food manufacturers), waste management businesses, water companies, Local Authorities and governments our client will support these organisations to establish processing plants utilising their enzyme process to manage large volumes of waste.



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Target activities can be summarised as follows:

- Licensing of territories and product exploitation including JVs/Partnerships etc.
- To support further research and development of environmentally sound technologies.
- Defining and developing the brand and product portfolio.
- Sales and marketing of consumable products.
- Sales of support services (technical/consulting and education).
- Development of strategic and supplier partnerships.

Our client's unique process has already been taken up by a number of global organisations and at this time the Company is actively working on various projects and opportunities such as;

- Converting cow dung in the US into methane to produce electricity to sell back to the national grid.
- Utility Gold partner in Living PlanIT, Portugal which is an eco city.
- Possible Joint Venture in Turkey.
- Project in Kenya to convert waste in Nairobi is with the Kenyan government for approval.
- A business making compost from cow dung in India.

Competition

At this time our clients believe that there is no direct competitor utilising organic waste of all kinds as a feedstock for the variety of purposes that their process makes possible. Those technologies currently available can be summarised as:

- **Anaerobic digestion (AD)** - Anaerobic digestion as a means of methane generation for heating and electricity generation has been with us for over 150 years and, except for containment design and civil engineering has shown little technological change over that time. The system suffers from a number of drawbacks including the fact that it is a slow process and relatively expensive.
- **Incineration, Pyrolysis, Plasma pyrolysis and Gasification** - While it is true that these processes can deal with a wide range of waste, they also have a number of serious drawbacks, such as the fact that they rely on high temperature processes which in turn has a very poor carbon impact by comparison to the Achor process. Initial capital costs are high.
- **Solar and wind power** - Both of these technologies have the disadvantages of seasonal and diurnal variations and a relatively low efficiency. There is only one output possible which is electricity. Solar power is not feasible on anything other than a domestic scale in the UK due to overall low light intensity. Wind power requires large land areas for wind turbine "farms" in order to make significant impact and is becoming increasingly subject to environmental lobbies on aesthetic and wildlife grounds.
- **Bio fuels** - Most bio fuel production, be it bio diesel or bio ethanol, relies on land producing non food crops whether in the country of utilisation or elsewhere in the world. There is an increasing realisation that issues such as competition with food supply and biodiversity is making conventional bio fuel production untenable. There is also a concern that such crops may also be generating more harmful greenhouse gas emissions than conventional carbon based fuels. Although work is continuing throughout the world on the so called "next generation" bio fuels involving agricultural wastes such as corn stalks as feedstock and the use of algae to provide bio diesel this is nowhere yet ready for the market place.



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Financials

Detailed forecasts for the various pipeline projects noted above are currently being updated. However to give a feel for the potential revenue streams the following is an illustration of just the first phase of a project that has recently been quoted for (revenues in £000s);

Income	£2,073
Cost of Sales	£ 612
Overheads	£1,330
Operating profit	£ 131

The team are currently undertaking some consultancy work alongside the development of the pipeline to generate short term revenue. The business is predicting sales of £3.175M in Year 1 producing a £866k surplus and a steadily increasing cash balance projection of £1.5M at the end of Year 3. Investors seeking an exit after 3 years will have the opportunity to resell their shares at what the owners predict to be a significant premium.

The Investment Opportunity

To date the shareholders have injected in excess of £100k, mostly as loans. The management team believe that, whilst the business has huge potential for growth, they have developed it as far as they can without additional investment.

Thus there is an opportunity for an investor(s) who understands the potential around commercialising clean technology to take an equity stake in return for a £200,000 investment. These funds will be used as working capital to bridge the period until the identified income streams come on line.

Exit

In terms of exit the management team believe that, in view of the international interest already shown, the business will grow exponentially over the next 3 to 5 years. This opens up the possibility of onward sale to one of the major players in the BioTech field or even an AIMS floatation.

Further detailed business plans and financial projections are available to interested investors. Our client does, however, require an NDA to be signed before this additional information can be released.

This document is based on information supplied by to Business Finance Services Ltd by our client. For further information please contact Peter Douglas Phone: 01327 349779 Mob 07770 866955 or e-mail to peter@bufinserv.co.uk or Lynn Cowley, Mob 07935 102445, e-mail lynn@bufinserv.co.uk.

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