

## SAHARA GROUP UK BIO FUEL



Respecting the Kyoto Protocol, SAHARA GROUP UK

**Algae oil is an interesting sustainable feedstock for biodiesel manufacturing. It is an alternative to popular feedstocks, like soybean, canola and palm. Ultrasonication improves the extraction of oil from the algae cells and the conversion to biodiesel.**

In comparison to traditional oil-seed crops, algae yields much more oil per acre. While soybean typically produces less than 50 gallon of oil per acre and rapeseed generates less than 130 gallon per acre, algae can yield up to 20,000 gallons per acre. In particular diatoms and green algae are good sources for the production of biodiesel.

**Like other plants, algae stores energy in the form of lipids. There are various methods for extracting the oils, such as pressing, hexane solvent wash and ultrasonic extraction.**

Implicates itself in the reduction of Gas emissions linked to the green house effect. SGUK has chosen the African continent because of its ideal climatic

conditions for planting. we are in both the ecological impact and the financial potential that these projects represent and that together we may very quickly and effectively realise a great numbers of these project models, both in Bulgaria and in other world communities.

low operational costs in Bulgaria provide an excellent investment return of capital employment. Contractual agreements guaranteeing a high level income from production of biofuels, electricity, organic fertilisers and combined forage with impact to livestock production, Carbon Credit Income and European Funds Programs substantially reduce any investment risks. The name "Hydroponic" comes from Latin and means "Working Water". In today's modern agriculture world, hydroponics is the name given to the growing of plants without soil.

When most people think of hydroponics, they think of plants grown with their roots suspended directly into water with no growing medium. This is just one type of hydroponic gardening, known as Nutrient Film Technique (NFT).

There are several variations of NFT used around the world and it is a very popular method of growing hydroponically and there are literally hundreds of methods of hydroponic gardening.

There are 6 basic types of hydroponic systems; Wick, Water Culture, Ebb and Flow (Flood & Drain), Drip (recovery or non-recovery), NFT. (Nutrient Film Technique) and Aeroponic.



Each of these have many variations but all hydroponic methods are either a variation or a combination of these six.

## **REFORESTATION**

SGUK supports reforestation projects in the developing countries. We are constantly looking for good ground for planting Bio diesel is an alternative fuel based on refined vegetable oils and transformed using chemical procedures. There is a tendency for Bio diesel energy to replace actual diesel fuel SGUK do the best in order to answer the increasing global demand for Bio Diesel and green fuels. SGUK collaborates in the planting of Jatrophas in Africa. The oil obtained from Jatropha Curcas, is cheaper than that obtained from rapeseed, and allows for a high quality production of Bio Diesel fuel. Our first Bio Diesel production and exportation Refinery is under construction, and will be situated in the zone of Sidi Kreir in Alexandria.

## **SAHARA GROUP**

### **CARBON CAPITAL & CARBON TRADING**

The Carbon Trading Partnerships have been established to enter into the business of trading carbon credits for profit. They provide an opportunity for individuals to make a direct, personal contribution to addressing the issue of climate change within a commercial, rather than a donor, framework. Under the Kyoto Protocol, legislation and mechanisms are being introduced that should foster the creation of a global market for trading carbon credits. In anticipation of Kyoto protocol emissions-reduction targets coming into force in January 2008, trading of carbon credits is already taking place. The total value of such trading exceeded US\$ 250 Million in the first five months of 2004 alone.

#### **Initial Carbon Trading Activity**

The partnerships intend to commence trading carbon credits in the first quarter of 2005, coinciding with implementation of the EU Emissions Trading Scheme. The Managing partner believes that by doing so, the Partnerships will be able to develop the experience and expertise necessary to exploit early opportunities that may arise as the Kyoto protocol comes into to acquire and trade an initial portfolio of third-party-generated carbon credits, in addition to trading future streams of carbon credits generated by their own project activities.

## REFORESTATION



While the trading of third-party-generated credits should be profitable in its own right, the Managing partner believes that in order to develop a sustainable long-term market position, the partnerships will need to underpin their trading activities by establishing their own sources of ongoing low-cost credits. Specifically, the Managing Partner believes that under the Kyoto Protocol's Clean Development Mechanism ("Cdm"), Reforesting Areas In Developing Countries Could Potentially Provide Such A Source, And That Trading Such Credits May Be A Indications Are That Reforesting 50.000 To 1.000.000 Acres Of Land Could Potentially Sequester More Than 1.000.000.000 Tonnes Of Carbon Dioxide (Co2) Per Year, Generating Carbon-Trading Revenues In Excess Of Us\$ 2.000.000.000 (Two Billion U S Dollars) Per Annum.

The managing partner has identified a number of specific opportunities to acquire and reforest certain areas of land in South America and Africa to generate carbon credits. However, the net carbon effect of reforestation will differ markedly from area to area, depending on factors such as climate, soil conditions, existing flora, current land-use and the species of trees to be grown. This requires that a scientific research project be carried out to determine how to maximise the carbon-sequestration effecting each area, within the sustainable-development and biodiversity constraints of the CDM.

IN ORDER TO REDUCE ITS RISK AND INVESTMENT EXPOSURE, THE PARTNERSHIPS INTEND TO ADDRESS THESE OPPORTUNITIES IN TWO SUCCESSIVE PHASES: THE INITIAL SCIENTIFIC RESEARCH PROJECT; FOLLOWED BY THE FULL-SCALE REFORESTATION ACTIVITY ITSELF.

### *SUSTAINABLE QUEST*

WE'VE consistently recognised the importance of sustainability in how we do business as well as in the solutions we provide for our customers, whether we're regenerating a brown field site, developing flood alleviation programmes or promoting low energy lighting and sustainable materials in our building designs.

Now we're taking this established tradition forward – with our project sustainability tool QUEST. We have developed QUEST – quantitative engineering sustainability tool – to measure and manage the key factors associated with sustainability during the development process.

By working closely with our customers we not only carry out our business in a more sustainable way but we can help make further reductions in cost.



Quest works by identifying environmental, economic and social aspects early on in the design process and setting specific objectives.

QUEST then measures performance against the objectives and suggests actions to improve this performance.

This approach avoids costly bolt-on and last-minute solutions and provides the opportunity to 'design out' problems and 'design in' sustainability. It also avoids cost overruns because design changes are implemented prior to the construction phase.

The main strength of the tool is that it identifies issues and opportunities which may not have been considered. This encourages informed designs which contribute to the goal of designs which contribute to the goal of sustainable development.

QUEST has been successfully piloted within SAHARA GROUP and is now available to customers. So far, feedback has been extremely positive and has helped to raise awareness and provide capacity building internally within our design teams.