

Case study

Biotech Group

SAVING THE WORLD FROM environmental catastrophe will depend increasingly on the use of sustainable energy resources. And while South Africa may lag behind the developed world in promoting the use of sustainable energy, the Cape Town-based Biotech Group is making a profound impression on the local and international sustainable energy scene.

Every century wears a mantle woven from its particular challenges, be it the industrialisation of the 19th century or the warring violence of the 20th century. It is clear, at the start of the 21st century, that our supreme challenge this time will be to prevent environmental collapse, particularly by finding ways to curb greenhouse gas emissions and avert climate change.

Living off interest

At the heart of this challenge rests the ideal of living sustainably in an increasingly overcrowded world, while still providing both people and planet with the resources they need to survive and prosper.

Former World Bank economist, Herman Daly, put it succinctly when he emphasised that economies need to be restructured in a way that enables us to live off the interest of our

natural world without encroaching on its capital base.

Yet, people in their personal and corporate capacities are not taking this issue sufficiently seriously and are tinkering around the edges. They tend to think that saving a little extra energy here, or trying out a new alternative technology there, is adequate.

The Biotech Group recognises that we need to go beyond this, and is setting new standards for the local and international sustainable energy scene.

The alternative energy industry

Based in Cape Town, the Biotech Group (Biotech) is a privately-owned group of companies that has embarked on a journey to make a lasting impact on the local and international sustainable energy industry.

The Kyoto Protocol

In terms of the Kyoto Protocol, industrialised countries agreed to reduce their collective emissions of six greenhouse gases (most notably CO₂) by an average of 5.2% compared to their emissions in 1990, over the five-year period from 2008 to 2012. As a developing country, South Africa was exempt from similar formal emissions reduction targets. But since this is likely to change after 2012, the pressure on government to change its policies and support the renewable energy industry will increase significantly.

Headed by Michael Guilfoyle, Ashley Francis and Kevin Godwin, Biotech was founded in 2005 based on extensive research into the development of biomass fuel as an alternative energy source to fossil fuels.

For sustainable energy, biomass includes all forms of organic matter that can be used as a versatile alternative fuel source. These applications produce power in the form of electricity, steam or heat – from small units supplying individual households to multi-megawatt heat or power installations.

However, as Kevin Godwin clarifies: “Biomass fuel must not be confused with liquid biofuel. The real strength of our product, and the reason it is a truly sustainable alternative energy source, is that we use a natural waste product as our resource.”

Biotech is exploring a number of avenues in the alternative energy industry but is currently focused on two aspects.

Biotech Fuels, which represents one arm of the business, has established a manufacturing plant and developed the supply chain and logistics infrastructure necessary to produce biomass pellet fuel, which it is now supplying the European market.

Biotech Energy – the other principal arm of the business – is already planning a six-megawatt, power-producing facility that will sell sustainable electricity to the local market.



Biotech's plant in Howick, KwaZulu-Natal uses state-of-the-art technology to produce wood pellets.

Pellet power

The agriculture and forestry industries produce an enormous amount of organic waste each year which, historically, has been dumped in landfills or left to nature's decomposition processes. As a result, greenhouse gases are being needlessly expelled into the atmosphere and natural water supplies beneath the sawdust dumps are being contaminated.

By pelletising wood waste, Biotech creates a fuel product that can be stored for long periods and can be transported cost-effectively. Unlike coal, wood can be farmed in a sustainable manner.

But given South Africa's abundant coal reserves, growth in the alternative energy industry has, thus far, been limited. This is set to change later this year, when the country is expected to commit to CO₂ emissions reduction targets by 2050 in terms of the Kyoto Protocol.

Biotech director Michael Guilfoyle is encouraged: "These are exciting times for the alternative energy industry and particularly for its future in South Africa. Our ultimate goal is to be instrumental in growing a local biomass fuel and energy market, really putting the country on the map as a leader in alternative energy."

State-of-the-art technology

In January 2009, Biotech exported its first shipment of biomass pellets to Europe, produced at its state-of-the-art pellet plant in Howick, KwaZulu-Natal. Specifically chosen for its proximity to the regional forestry industry, the plant produces pellets from

sawdust and wood off-cuts discarded by local wood mill operations.

The original concept – and still the ultimate goal – is to pelletise a wider range of agricultural waste. However, in order to gain a foothold in the market, the company has first started making a name for itself in the traditional wood pellet industry.

The Howick plant is only the first in Biotech's vision for the local market. "We have identified a few other potential regions as suitable locations for future wood pelleting operations. The potential for growth in a local biomass pellet market is massive, and we're fortunate to be at the forefront of this change," says Ashley Francis.

A sustainable energy strategy

Biotech's vision for a comprehensive and sustainable energy strategy is enhanced by plans to construct a biomass power plant adjacent to its pellet plant, where only sawmill residues will be used and the initial electricity produced will supply the pellet plant as well as other local industries.

Since the South African government aims to have 10,000 GWh of sustainable energy in the energy mix by 2013, the prospects for growth within the biomass electricity sector are equally impressive. Discussions with Eskom and local municipalities have revealed great interest, and Biotech Energy has already been registered as an Independent Power Producer (IPP).

As its foothold in the sustainable energy industry grows, so the company plans to extend its services into the global sustainable energy technology and consulting arenas, giving South Africa a leading brand on the world stage.



Wood pellets provide energy in the form of electricity, steam or heat in a wide range of applications.

“Biotech Group is passionate about moving away from short-term destructive methods to deal with the energy crisis and to focus on providing sustainable solutions that will preserve and protect our planet into the future.”

KEVIN GODWIN
Director: Biotech Group

Contact details

Michael Guilfoyle
Executive Chairperson and Director
021 418 1520
info@biotechgroup.com
www.biotechgroup.com



What is Biomass?

As far as sustainable energy is concerned, biomass includes all forms of organic matter that can be used as a source for fuel. Biomass is a term used to describe all organic matter that stems from plants, trees and agricultural crops. It may also incorporate the organic fraction of municipal solid waste. The fuels obtained from biomass are seen as an alternative to the more traditional fossil fuels, such as coal, oil and gas.