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South Africa, Republic of

Bio-Fuels

Situation Update

2007

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Report Highlights:

South Africa's fledging Bio-fuels industry is currently facing a few setbacks. The Government's bio-fuels task team is currently discussing the draft Bio-fuels Industrial Strategy with interested parties and will report back to cabinet in May. The uncertainty about the final strategy and its support measures are making it difficult to find finance for further development and the building of plants. A drought in the summer grain area coupled with the high international commodity prices have pushed up corn prices to five-year highs casting doubts about the viability of ethanol plants based on corn. The situation is, however, fluid and constantly changing, and we are confident that at least one modern large-scale ethanol plant will be built.

Includes PAD Changes: No
Includes Trade Matrix: No
Unscheduled Report
Pretoria [SF1]
[SF]

Bio-fuels situation.

Bio-fuels, for example bio-ethanol and bio-diesel, are fuels produced from renewable biological resources. As a signatory to the Kyoto Protocol the South African government is keen to be seen moving towards the use of cleaner, renewable energy. In December 2005, the South African cabinet approved the development of a bio-fuels industrial strategy, the establishment of a Bio-fuels Task Team to develop the strategy and the authorization of the task team to investigate establishing a bio-fuels industry, and to report on the financial implications involved.

Cabinet has approved the Draft Bio-fuels Industry Strategy (attached), and released it for consultation. This involves workshops and meetings at both national and provincial level, and consultations with organized industry, farmers, communities and provincial governments. The Draft Strategy was developed by the consultative intergovernmental Bio-fuels Task Team, which comprised of 12 national government departments, the National Treasury, Science and technology, Trade and Industry, Land Affairs, Agriculture, Water Affairs and Forestry, Public Works, Provincial and Local Government, Presidency, Transport, Environmental Affairs and Tourism and chaired by the Department of Minerals and Energy.

The Draft Strategy, based on a detailed feasibility study, proposes a 4.5% inclusion bio-fuel industry in South Africa to achieve 75% of the country's renewable energy target by 2013. The strategy is based on the national blending specifications of 8% for ethanol (E8) and 2 % for Bio-diesel (B2). The following crops, namely, corn and sugar (Ethanol), as well as soybean and sunflower (Bio-diesel) were chosen as feedstock. This is based on existing crop production, but the strategy acknowledges that South Africa has to conduct research to develop other crops.

The draft strategy proposes a mandatory blending of bio-fuels with petroleum-based fuels. This includes a proposal that the existing fuel levy exemption for Bio-diesel be extended to Bio-ethanol based on the energy content. A hedge fund similar to the Equalization Fund is proposed to deal with oil price variations. The proposal is that during periods of high international crude prices the bio-fuel producers will pay some money back to the National Treasury and during times of low crude prices the bio-fuel producers will then receive some government protection.

The bio-fuels task team will report back to cabinet in May 2007 on the outcome of their consultations. It is hoped that the bio-fuels industry will stimulate the rural economy, create jobs, help reduce greenhouse gas-emissions and boost foreign exchange savings.

A recent survey has indicated that South Africa stands to gain up to R5.8 billion (\$0.8 billion) from carbon credit trading in the next 10 years. SA is reported to have a potential for millions of tons carbon credits, while many coal power-based industries are converting to clean energy. Under the United Nation's Kyoto Protocol, which SA has ratified, developing and developed countries are encouraged to exchange carbon credits for the purpose of reducing global carbon emissions blamed for exacerbating global warming. The Clean Development Mechanism (CDM) is the vehicle employed for carbon trading and SA has launched six carbon-

trading projects designed to reduce carbon emissions. Of the six projects registered by SA companies, only the one implemented by the state-funded PetroSA is fully operational. The project involves the transforming of biogas to energy, but the Bio-fuels industry also stands to benefit. The Department of Minerals and Energy is the authority responsible for the rules and regulations pertaining to carbon trading.

Currently petrol and diesel are produced in South Africa using 3 methods, refining of imported crude oil, the fuel from coal process employed by SASOL and the fuel from gas process used by PetroSA at Mossgas. Diesel production is a by-product of the production of petroleum from crude oil. Refining capacity in South Africa is utilized to maximize petrol production. The supply of diesel, produced as a by-product, generally exceeds domestic demand. On average 0.72 liters of diesel is produced for each 1 liter of petrol produced causing an imbalance in local supply.

Historically Sasol, South Africa's fuel from coal giant supplying 36% of South Africa's liquid fuels, supplied alcohol to the oil companies for blending into petrol. The supply agreement between the parties allowed for up to 12% alcohol in petrol. In the late 1980's Sasol started to export ethanol in large scale to Brazil, and they soon thereafter stopped supplying the local oil companies. In 1997 Sasol's export of alcohol to Brazil was abruptly halted. At that time Sasol again tried to sell to local companies, but it took six months to get a new agreement. During that time Sasol had to flare the ethanol, as well as creating a large ethanol 'dam'. Sasol then started to purify alcohol for sale into industrial markets, as well as for conversion to other chemicals. The use of alcohol in fuel is thus not new although based on mineral ethanol. The sugar industry also produces ethanol for domestic and export markets.

Bio-fuels recently created a lot of interest and as can be expected various schemes have been announced mostly based on imported inputs. The major player, based on locally produced corn, seems to be Ethanol Africa.

The current shareholders of Ethanol Africa include Sterling Waterford Holdings, responsible for innovative product development in the carbon credit market; Ecofields, a South African agricultural grouping; and Grain Alcohol Investments, an investment vehicle representing over 100 farmers in the corn producing areas of South Africa.

Sterling Waterford Holdings (SW) was established in 2004 to focus on structuring financial products and investing in the clean energy markets. In 2005, SW created the first investment derivative in the carbon credit market (the Carbon Credit Note) and listed the derivative on a recognized securities exchange (JSE Securities Exchange). SW subsequently released the first fixed-interest carbon credit linked instrument (Collateralized Enhanced Yield Certificate) later in 2005, another first in this market. In 2006 SW entered the renewable fuels market through shareholding in Ethanol Africa.

Ethanol Africa's first bio-ethanol plant is being built at Bothaville in the Free State province of South Africa. Bothaville lies in the center of the South African corn area,

and has been selected to ensure ready access to corn supplies, as well as access to the required logistical and infrastructure support. The manufacturing facility at Bothaville was to be built over the 2006/2007 period, with production starting in the second half of 2007. This has been delayed by financial uncertainties brought about by the drought in South Africa and the much higher corn prices. Once the financial difficulties have been solved and the successful start-up of the Bothaville facility, Ethanol Africa will proceed with the planned additional 7-bio-ethanol plants.

The technology for the production of Ethanol has been licensed for all 8 plants from Katzen International, an engineering firm based in Cincinnati, Ohio. Katzen specializes in the application of highly efficient, low-energy, low-pollution techniques in particular to the production and processing of ethanol. The implementation team includes Lampets, Uhde and Ninham Shand. Lampets is considered one of the top three engineering consultants in Ethanol production. Uhde is a subsidiary of Thyssen Krupp, a German corporation, and one of the world's largest technology groups. Ninham Shand was founded in 1932 and is a well-established firm of consulting engineers and environmental scientists.

In spite of the current drought, South Africa's potential to produce corn surpluses is well documented and an additional outlet for corn is welcomed. This is in contrast to oilseeds where there is a chronic shortfall necessitating imports exceeding the oilseed equivalent of more than a million tons a year.

At the moment the main problem slowing down the erection of the Bothaville plant is financial, finding the estimated R1 billion investment needed to build the plant. The three main factors currently affecting the industry is the oil price, the corn price and the exchange rate, all of which being a negative at this stage. Coupled to the fact that the Government's Bio-fuel strategy has not been finalized the uncertainty in the market is understandable. The company is however going ahead with planning for the 2007/08 corn-growing season starting in November.

They are planning to contract farmers for 350,000 to 400,000 tons of yellow corn, on about 150,000 hectares, within a radius of 80 kilometers from Bothaville. As the area is predominantly a white corn growing area this is not seen as affecting food supply. A fixed SAFEX derived price will be paid in the first season to establish standards. Once starch percentages produced by various cultivars are established, Ethanol Africa will pay a premium for high starch cultivars or test for starch content. The company is planning to process 1,150 tons per day at moisture content as high as 18%. This will be drawn from direct deliveries where the high moisture will mean significant savings in drying costs for the farmers. Other stocks will be drawn from the 100,000-ton silo, which is to be built at the plant. The equation becomes even more attractive as suppliers will not be paying silo storage costs either (about R7/ton per month). Production loans will also be offered to farmers willing to contract a part of their crop.

