

ETHANOL – THE SPIRIT OF SUCCESS

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Ethanol – The Spirit of Success

- The fuel crisis of the seventies prompted some wise governments to search for a cheaper and an effective alternative source of fuel than the prevailing fossil fuels then.
- This marked the birth of ethanol, which today is being blended with gasoline in several countries, Malawi inclusive.

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- This search was spearheaded internationally by Brazil in South America in the early seventies while here in Africa it was led by Zimbabwe followed by Malawi, Kenya and South Africa in that order in the early eighties.

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- Malawi commissioned its first Plant on the Shores of Lake Malawi in Dwangwa in May 1982. A second plant was commissioned in 2004 in Chikwawa



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- To date the four aforesaid African countries still stand as the only producers of ethanol from fermentation of cane molasses. Zambia and Mozambique will soon follow suit.
- So far Malawi's ethanol has been acclaimed for its smoothness and other quality excellencies.

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- Scientific and engineering data has shown that the world over, ethanol improves the quality of regular petrol from octane 87 to that of premium petrol 93 while premium itself is pulled to octane 98.
- By blending pure petrol with ethanol , the octane level is enhanced making the resultant blend a higher performer than pure petrol.
- This is why landlocked countries in particular those who depend on imported petroleum products like Malawi , cannot but welcome the use of ethanol which since 1982(in Malawi) has more than satisfied its stake holders.

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- Since commissioning of its first plant on the shores of Lake Malawi 224.5 million litres of ethanol has been blended with petrol in Malawi.
- In addition other products like potable alcohol which is supplied to the only licensed distillery in the country for their entire alcoholic needs has also been produced to the tune of nine million litres.

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- The third product which lately has increased due to reduced blending ratios from 20 to 10% to satiate the unleaded petrol levels required for blending is rectified or industrial ethanol whose production volumes to date stand at 24 million litres.
- These figures are grossing 257 million litres of ethanol produced from the Ethanol Company in Dwangwa since inception in 1982 to 31st December 2006.

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- The past two years the company has exported almost half of its product to the East African countries with some trickling to Mozambique, Zambia and Botswana.



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- Ethanol has been very viable because in its 25 years of existence , it has saved Malawi the cost of an equivalent amount of imported petrol, which is no mean feat for an economy of this poor country.

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- On the local scene, since ethanol is locally produced from local raw material, it is supplied to local oil companies at a slightly lower cost than the landed cost of imported gasoline.
- This is NOT a bad idea to the oil industry who like everybody else anywhere, need better trading margins in their businesses”

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- Environmentally, ethanol is very friendly because whereas fossil fuel like petrol and diesel give out toxic chemicals such as nitrous and sulphur oxides, ethanol gives out methane(which is biodegradable) and water.
- It is therefore unscientific and environmentally unfriendly to de campaign the use of ethanol in petrol blends.

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- Malawi is currently taking the issue of ethanol utilization further on the footsteps of Brazil. In Brazil almost 35% of cars on the roads run on flexifuel.
- A car user can either use pure ethanol or pure petrol in the same car at any one time.
- Ethanol Company together with Malawi Government's Department of Science and Technology and Lilongwe Technical School have embarked on this project.
- An old Government Pajero has since been converted to run on either pure ethanol or petrol. Successful road tests have been carried out

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- Ethanol Company has since imported a flexicar (See above Picture) from Sao Paolo in Brazil to beef up the research. This car should be in Malawi before December 2007



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- Like any other commodity, there are always some downsides. Fortunately for ethanol, these are not many and their impact is very small compared to the positive gains.
- The first one is its oxidizing nature which results in the cleaning out rust in mild steel parts, which have been known to be deposited in some parts of the fuel system causing jerking.

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- Research has proved that this has been so at the very introduction of the blend into the tank. After that there has been nothing more to be oxidized and therefore no rust to be deposited anywhere.
- In addition ethanol has a tendency of wearing out some plastic components in the fuel system sooner than later. However research and applications has shown that this is apparent in theory rather than practice.
- Vehicle manufacturers have, like in Brazil and USA overcome these worries by using resistant components where such fear is expected.

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- Lastly, though the moisture in exhaust fumes has a positive environmental impact, it has been suspected to wear out exhaust systems faster than petrol users.
- Once again history has proved that this is nothing to worry about and it's a matter that lies in the minds of chemists only.
- As aforesaid, the motor industry has adjusted to blend fuels in its production of vehicle components over time.

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- Experience to date tells us also that where molasses is used as feedstock like in all African countries alluded to earlier on, it enhances sugar production by guaranteeing the emptying of molasses tanks without further costs to the sugar milling industry.
- In addition to saving hard-earned foreign exchange to most developing states, ethanol production provides employment opportunities to a wide sector of the population. One may not write off the levies and taxes ethanol producers must pay to government which is a value adding idea to the latter's revenue collecting habit .

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- The panorama of advantages is endless. It is no accident that Ethanol Company has in successive years (2006 and 2007) scooped medals at the Malawi International Trade Fair in the export category. A bronze in 2006 and a gold in 2007.

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Ethanol is indeed “The Spirit of Success”