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ALTERNATIVE ENERGY BLOG - NEWS, VIEWS AND STRONG OPINIONS  
ON ALTERNATE ENERGY RESOURCES INCLUDING SOLAR ENERGY,  
WIND POWER, WAVE ENERGY, GEOTHERMAL & OTHER RENEWABLE  
ENERGY SOURCES + NEWS ON OTHER ENERGY ISSUES INCLUDING  
THE END OF CHEAP GAS & OIL, PLUG-IN HYBRID CARS, RISING  
FUEL PRICES, "CLEAN" COAL & NUCLEAR POWER

SUNDAY, MAY 14, 2006

## Ethanol Fuel in South Africa



Tumi Makgetla reports in South Africa's Mail & Guardian that while an interest in alternative energy and green politics is often seen as the preserve of the chattering classes, working-class people in Johannesburg's inner city are already using renewable energy in their homes.

On a pavement in Joubert Park in Joburg (how Johannesburg is commonly

called), shoppers cluster around Tumelo Ramolefi's stall exclaiming and asking questions about his products. Ramolefi is not selling the usual inner-city hawker stock of facecloths and socks, or "smileys" (boiled sheep heads) and "runaways" (pigs' trotters). Instead, it is his display of innovative renewable-energy gadgets that attracts the attention of passers-by, and often turns them into converts to the green-energy cause.

His bestselling items are ethanol gel stoves and lamps, which offer a healthier, safer and more efficient fuel alternative to paraffin or coal fires.

Ethanol gel is a renewable form of energy made by mixing ethanol with a thickening agent and water. The ethanol is extracted through the fermentation and distillation of sugars from sources such as molasses, sugar cane and sweet sorghum or starch crops, like cassava or maize.

Ramolefi sells ethanol gel products and appliances for GreenHeat South Africa, which has branches in Durban, Jo'burg and Cape Town. The stoves and ethanol gel -- produced from sugar cane -- are manufactured in Durban. A two-plate stove sells for R160 (approx. \$25 USD) and a lamp for R50 (around \$8).

"This stove is number one," said Maria Ndlela, who works in a recycling centre in Joubert Park and has owned her stove for two months. She says it is easy to use and, while paraffin is cheaper than the gel, the gel is more cost-efficient in the long run. Five litres of gel costs about \$9.70 and paraffin costs approximately \$3.55 for the same amount. "Gel lasts. If you don't use it too much, five litres of gel takes you a month to use, but five litres of paraffin lasts only three days."

Ndlela says an added attraction of ethanol is that the paraffin price fluctuates. "The price of paraffin is going up and down, up and down with the petrol price," she said, "So now I'm forgetting about paraffin."

"What I like about the stove is that it will conquer our unreliable electricity," said Florah Thulare.

Safety is also a big selling point in favour of ethanol products, particularly for those who use coal or paraffin for heat and cooking. Paraffin stoves, which explode or are easily knocked over, cause fires, and poor ventilation can lead to asphyxiation.

"Coal can actually kill you during the night," says Ramolefi. "In this coming month, we know people are going to die, but there's no campaign."

Gel fuel burns with a carbon-free flame, so it does not cause respiratory problems such as asthma, which can be caused by emissions from paraffin, coal and wood fuel. The gel also does not produce any smoke or smell.

Gel fuel will not ignite if spilt like gas or paraffin. The gel is non-toxic and thus is not poisonous if swallowed by children. The stoves are designed so they will not fall over if bumped and the stove's legs allow it to slide when pushed instead of toppling over. Even if an ethanol lamp is overturned, the gel will extinguish the wick.

The stoves are designed for cooking, but about half of his customers buy them as heaters, said Ramolefi.

Ramolefi has sold about 70 stoves in the past eight months and hopes the market will grow and prices will consequently drop, making the stoves more affordable for the poor.

[Full article on how ethanol gel is replacing paraffin in South Africa](http://www.mg.co.za/articledirect.aspx?articleid=271547)

<http://www.mg.co.za/articledirect.aspx?articleid=271547>

POSTED BY JAMES AT 1:15 PM

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5 COMMENTS:

Anonymous said...

Nice article. I'm not sure that we're ready for large scale ethanol production the U.S.

[http://theopinionator.com/energy/ethanol\\_boon\\_boondoggle1.html](http://theopinionator.com/energy/ethanol_boon_boondoggle1.html)

4:53 PM, MAY 19, 2006

**Razib Ahmed** said...

Nice article and South Africa has a great potential in using in Alternative energy. However, I wish that you had written something about Nepal too.

Nepal is one of the poorest countries in the world but in terms of **biogas unit per capita** it is way ahead of India and China the two emerging giants in the world economy.

6:55 AM, MAY 20, 2006

**Mozambique Bio Fuel Industries** said...

Hi There

Ethanol gel is the solution to paraffin and its bad causes. But in South Africa electrical power is in short demand and ESKOM is interested in ethanol gel as a way to reduce power consumption.

In Mozambique the locals use 1 million cubic meters of wood for charcoal every year. Ethanol gel can replace deforestation if you use a renewable source.

The Mozambican Government has allocated 3.5 million hectares of land to Mozambique Bio-Fuels Industries (MBFI) to produce feedstock's for bio fuels.

They will grow cassava for bio-ethanol and Jatropha curcas for bio-diesel.

But the real solution is to get the local farmers involved. They grow 5.6 million tons of cassava a year as food. And they can easily double their output.

If MBFI can purchase cassava from locals they can with one modular plant in a community add \$100 000 to the community. Money they don't have as 37% of them earn less than a \$1 a day (if you calculate the value of a water they drink and food they eat).

Getting back to ethanol gel. MBFI plans to erect the first plant (of 300 such plants) producing 1.2 million litres of ethanol per year in the Nampula province in Mozambique.

But they need a company to purchase their ethanol gel.

Regards

Johan Horak

<http://www.mbfimozambique.com>

11:30 AM, JUNE 13, 2006

Wes said...

I think ethanol is the way to go in this country similar to how Brazil is currently close to becoming totally energy independent and a complete selection of ethanol or gas at the pumps. I know the U.S. has a totally different economy, size, and infrastructure but I do think we can use Brazil as a model for the right direction to go in. I think corn growers are eager for government support as they have excess supply and have already taken steps to convert into ethanol and sell. E-85 and other alternatives are

**exciting and I hope perhaps with a change in administration we can move in a new direction.**

<http://www.mg.co.za/articledirect.aspx?articleid=271547>