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**Small-scale biodiesel operations could hold solution to marginal farmland**

Small-scale biodiesel production in agriculture could be the key to unlocking South Africa's biofuels potential.

Biodiesel plant and technology company Shaval BioDiesel marketing director Brett MacDonald explains that the only way that farmers can make marginal lands economically viable is to lessen their input costs.

"Diesel is the single biggest cost in any planting operation and, in general, accounts for 30% of the total input. "When farmers grow their own feedstock like sunflower, make biodiesel for their own needs, and then either sell the oilcake coproduct, or better yet, use it in their own feedlot, they enjoy huge savings," MacDonald says.

Self-production can save farmers about R2 a litre on the pump price of diesel. Additional income can be earned from the production of oilcake, which is a protein-rich coproduct that is used as animal feed.

The reduction in input costs makes it viable to cultivate marginal lands, increase crop production and employ more workers. MacDonald says that about 20-million hectares of underused, marginal farmland has been identified in South Africa.

If planted, this farmland could provide up to 25% of the country's domestic fuel needs. MacDonald explains that these lands are known as marginal lands as they require too much input cost or produce yields too small to make them economically viable.

The only way that these lands can become productive is if the produce price rises or if the input costs can be lessened.

MacDonald says that, in the short-term, small-scale diesel production will mean that farmers will consume most of the available oilseeds in South Africa for their own use.

However, in the long term, the cultivation of energy crops on marginal lands will produce the large quantities of feedstock that oil companies and other potential large-scale biofuels producers will need.

"To try and implement bio- fuels the other way around would be like trying to build a house without a foundation to support it," MacDonald says.

**Own feedstock first**

Many believe that the only way to kick-start biofuels in South Africa is for government to introduce mandatory blending policies, as is the case in Europe. On the other hand, the fossil-fuel petroleum industry points out that it is impossible to introduce mandatory blending while there are no significant

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volumes of biofuels in the country.

MacDonald says that, while the government views the biofuels sector as having the potential to create a large number of jobs, the reality is that South Africa is still a nett importer of biofuel feedstocks. "By importing these feedstocks, South Africa is simply swapping the importation of one raw product for another. "The volatile nature of the crude-oil price has placed a lot more demand on energy globally." Hence, the long-term goal should be to produce these feedstocks locally.

MacDonald believes that government incentives could be the make-or-break of the local biofuels industry. He cites the upswing in small-scale biofuels production – which can be partly attributed to the South African Revenue Services' favourable tax regime – as an example of how government intervention can stimulate industry. The tax regime exempts small-scale producers from all fuel tax and levies if they produce up to 300 000 ? a year.

Since the introduction of the tax regime, the demand for small-scale biodiesel plants has increased.

Shaval has installed two plants to date, with another four on order.



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