

The future imagined for used oil sees SA embracing a closed loop economy

South Africa needs to move towards a more circular economy and away from the traditional focus on diversion from water and soil resources.

Moving towards a more circular economy - which is based on the principle of using, recycling, and reusing in an (almost) closed loop - could deliver opportunities including reduced pressures on the environment; enhanced security of supply of raw materials; increased competitiveness; innovation; growth and jobs. However, the shift also poses challenges such as financing; skills; consumer behaviour and business models; and multi-level governance.

Bubele Nyiba, the CEO of the ROSE Foundation (Recycling Oil Saves The Environment) says that the used oil industry in South Africa is an example of a sector that would greatly benefit from becoming an entirely closed circular economy through re-refining, but this will take time.

“Internationally, there is a significant trend towards re-refining of used oil back to base oil and it is thought that 70-80% of used oil will be re-refined back into base oils in Europe by the end of 2020.”

Environmentally, re-refining used oil is the ultimate solution for several reasons:

- Less utilization of natural resources;
- Emissions of carcinogenic compounds through re-refining are 15 times lower; Very low production of pollutants;
- CO2 emissions from re-refining are two times lower; and
- Re-refining offers an effective conservation of synthetic base oil compounds.

“Coupled with the obvious environmental benefits of re-refining, there are economic benefits to creating a closed loop economy - South Africa has an over reliance on base-oil imports, which can carry long lead times and are impacted by exchange rates, logistics, weather

patterns, port operations etc. All of which make re-refining an appealing choice for us,” says Nyiba.

However, South Africa will struggle to transition towards a closed loop model. “The local market is driven on price and it is very expensive to set up a plant to produce high quality re-refined base oil. Installing the re-refining infrastructure runs into millions and very few businesses can afford an outlay of this magnitude. Coupled with this we have a very high demand for burner fuels in South Africa - out of 350 million litres of new oil sold per annum, 120 million litres is collected for recycling. 90% of this is processed into fuel oil, to be used in furnaces, boilers, and other industrial heating requirements.”

“There are also no government incentives supporting re-refining or products made from re-refined base oil; and power costs are high which impacts on the energy intensive processes involved in re-refining,” explains Nyiba. “Whereas Europe has a very high level of environmental awareness amongst consumers – they label their re-refined base oil with environmental endorsements - our market is primarily driven on price and re-refined oil needs to compete on price with virgin oil.”

What does the future look like for SA?

South Africa is most probably the most developed re-refined oil market in Africa, followed by Egypt. Its market is estimated to be worth half a billion rand per year and is staffed by a combined workforce of 1,500 people. There are however currently only three re-refiners in the country that produce base oil from used lubes: FFS Refiners, Flexilube, and Motolube.

“Looking ahead ROSE would like to see South Africa follow in the footsteps of the global movement towards re-refining most used oil collected back to base oil and thereby create a closed loop system. We hope to see a growth in re-refining in South Africa, and indeed in Africa as a whole, as re-refining could be the key to unlock many doors on the continent: sustainability, job creation, reducing reliance on imports and lowering the continent’s environmental impact.”

“While South Africa may not yet be able to adopt a European approach to used oil, a future imagined sees a focus on a closed loop and circular economy, which will see other companies upgrading their plants to a capacity that can produce base oil. We need to encourage those that can make the transition, without talking down our burner fuel producers”. concludes Nyiba.

