

**So what seems to be the problem?**

The re-refining of used oil, while it is such an amazingly simple solution to depleting crude reserves and a long term environment friendly and sustainable practice, also has its fair share of challenges.

The first and the biggest challenge is the cost involved. Setting up an oil re-refinery is no simple task. It requires a heavy capital expenditure to start with, and this cost is directly proportional to the scale of operations at the refinery. To actually build one that is volumetrically comparable to a competing virgin oil refinery, knowing that one does not have the usual benefits of having a hundred other lucrative end products to sell is a challenge. But what most people fail to realise is that, when it comes to oil re-refining, one need not have to have refineries at large scale to obtain the same amount of end base oil – used lubricants already contain about 70% base oil in it. All that is required is that the remaining 30% be separated from this 70%.

Compare this with the refining of virgin crude oil, where, fractionation and distillation, after giving a number of different petrochemicals like gasoline, kerosene, etc., finally yields just about 1% of final base oil. The conversion rate is poor, to say the least. To better illustrate the point, consider this – 1 litre of base oil can be obtained by either of the following two processes.



Fig 1.4. Feedstock Requirement Comparison

The above comparison clearly shows the superior yields that can be obtained by re-refining used lubricants. Added to it is the fact that used oil is a renewable source, albeit with lesser volumetric returns each time. One cannot ignore the fact that oil can be re-refined and sold and used, over and over again, each time generating revenue for the refiners.

The other major challenges faced by the oil re-refining industry are the cost and complexities involved with used oil collection, and advertising expenses. While the former is more of an acceptable logistical problem that has to be planned and worked out with a sound strategy, the latter is primarily due to the current state of very low levels of awareness among the general public, regarding the benefits and assurances involved with using re-refined oil in their vehicles.

Many forward looking Governments have woken up to this fact, and are periodically releasing statements that cover the quality concerns commonly associated with base oil, and issuing policies that gradually convert more and more people to the side of re-refined oils. Several lubricant manufacturers have already started their own lines of used, re-refined oils, and have issued publications outlining their support to the concept of reusing oils, detailing the process they use, and also listing the various safety assurances and quality certifications for their products.

Still, a large section of people remain sceptic about this. Concerns about the quality of the base oil obtained have been major detriments in the progress of the oil re-refining industry throughout its history, and consequently, a lot of effort and money has to go into advertising re-refined oils, and encourage more people to buy them. People ought to realise that re-refined base oil is being subjected to the same stringent quality standards that conventional base oils are subjected to, and that the end product on either case is of the same quality and purity. They need to understand that oil doesn't wear out with constant use – it simply becomes dirty which can be cleansed by simple refining techniques.

**Is re-refining really that attractive an investment option then?**

Simply answered – Yes, it is.

The benefits of oil re-refining are multifold – not only is it an environment friendly practice that will give any company a whole lot of good publicity, it is also a much more economically sound business activity.

Typically, the operating cost of a refinery will depend upon its size, technology employed, and the capacity utilisation. But whatever the technology is, the operating costs involved with an oil re-refinery are less than that in a crude oil refinery, with respect to base oil. This is because the energy required to refine crude oil into base oil is three times that required to re-refine used oil into base

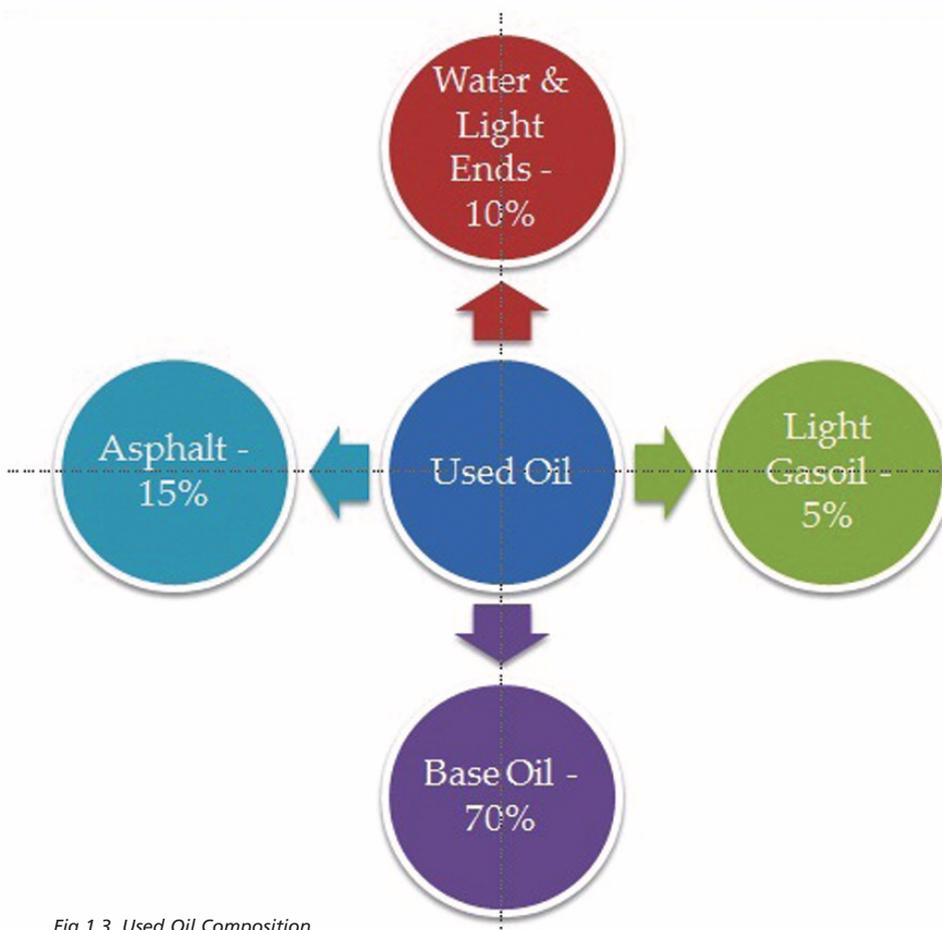


Fig 1.3. Used Oil Composition