

oil. Labour requirements are pretty much comparable, and so are other fixed cost components. In the case of recovering synthetic base oils, meanwhile, used oil refining displays an even bigger cost advantage when compared to the conventional techniques, and considering that the synthetic base oil industry is projected to grow at more than 10% CAGR in the next five years, it makes all the more sense in believing in oil re-refining as the future of base oil refining.

Overall, the cost of operating an oil re-refinery is not much, and there is ample scope for process improvement and cost competitiveness in the future.

The number of global players in the lubricants industry has been decreasing in recent years, with a number of acquisitions and consolidations by the bigger players. The number of manufacturers in the mid 90's was around about 1700. In comparison, the number stands at just over 700 today. What was once a largely fragmented industry is today a most active marketplace, with fierce competition, intense sales and marketing, and aggressive take-overs by most of the top players. In this regard, starting an oil re-refinery will give any company that competitive edge by positive branding and projecting a greener image than the competition. Plus, large corporates can easily achieve their sustainability targets by going into such a venture.

World base oil market today comprises nearly 60% of Group I base oils in terms of nameplate capacity, with Group II oils coming at number two with about 25%. Far superior oil efficiencies and rising number of application discoveries mean that the lighter oils are the ones projected to grow the fastest in the near future, with Group II poised to take the top spot in a decade or so. Many oil giants (like Chevron) are today focusing solely on Groups II, II+ and III oils. Oil re-refining, conveniently, gives us both Group I and II base stocks depending upon the feedstock quality and the refining techniques used. So there aren't any concerns in this regard either.

And obviously, environmental benefits are the biggest highlights for any recycling/reusing unit. The whole practice of oil re-refineries was started with an aim to devise a greener, cleaner way to dispose of used oil. More and more sections of the oil and gas community are now waking up to the fact that there is much money and environmental benefit, both, in the oil re-refining business. It is becoming more apparent by the day, that, provided that a long, continuous run of operations is assured, oil re-refining is most certainly an

economically viable, favourable venture that will improve one's brand image among the populace also.

Added to all of this, the current volatility in the crude market, re-refined oil surely has the capacity to gradually surge past crude oil as the dominant feedstock for base oil production.

Crude Vs. Used Oils – which trumps which?

The following table shows comparisons between crude oil refining and oil re-refining with respect to various parameters. As can be seen, the latter emerges as the clear winner!

Sl. No.	Parameter	Crude Oil Refining	Used Oil Re-refining
1	Capital Investment	↑	↑
2	Processing Cost	↑	↓
3	Selling, General, Advertising and Administration Costs	↔	↑
4	By product revenue	↑	↓
5	Base Oil Yield	↓	↑
6	Environment friendliness	↓	↑
7	Current Levels of Awareness	↑	↓

Note : ↑ High ↓ Low ↔ Average

Table 1.1. Crude vs Used – Comparison

That is not to say that Oil Re-refining is not without its constraints. But a fair, proper analysis will show one that the drivers are far too strong and also more in number as compared to these constraints. The following figure lists some of the main ones.

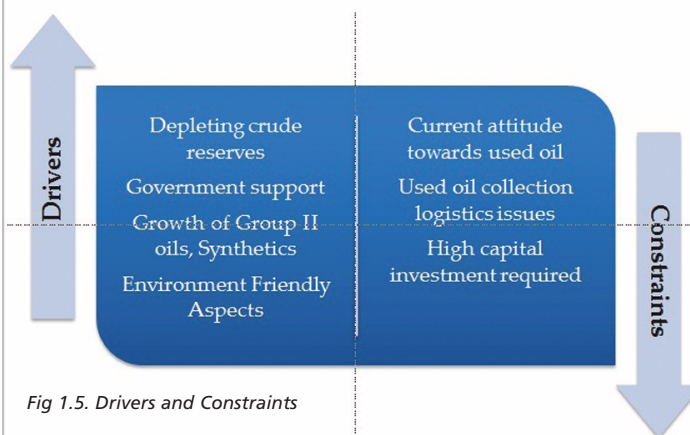


Fig 1.5. Drivers and Constraints

The Outlook – So what can we expect?

Oil re-refineries are here to stay. There is no doubt about it. The only question remains how fast it can grow, and one day, be the norm, instead of the exception. Already it has caught much

attention and appreciation. Researchers are working on process improvement all the time. Analysts are working out the maths, and coming out with better strategies for the business. Even the common man today understands the importance of judicious fuel consumption and recycling. A number of startups and capacity expansions of used oil refineries are in the pipeline, all over the world. Some of the important companies involved with new oil re-refineries in the US include Paralube, NexLube Tampa, Heritage-Crystal Clean, Universal Environmental Services, and Green View Technologies. The US Armed Forces and the US Postal Service have already begun using reused oil for their vehicle fleets.

Ford, Chrysler, General Motors, Cummins and many other auto companies have acknowledged the quality and the effectiveness of used oil as lubricants and have clearly stated that using them in passenger cars will not affect the vehicle's warranty coverage. Mercedes-Benz actually uses re-refined oil in every car it rolls out!

There are challenges in terms of cost and logistics, yes. But weighed against the numerous drivers, they aren't much. Some smart investing, increased awareness on the benefits of an entrepreneurial venture in the industry, technological advances in terms of better utilising the end products and production process techniques, and more Government encouragement and financial assistances for start-up, should

ensure that oil re-refining rise into predominance in the next 10 years, and turn out to be one of the best ideas of the twentieth century!

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