



Although the fuel industry is improving, some say the transformation has been too slow.

COMBUSTION CATALYSTS

It comes as no surprise that the nature of this black gold has sparked concerns amongst many parties regarding the environmental impact of its extraction, as well as of the burning of oil and fuel for energy. Those with an environmental conscience may be fully aware of the variety of alternatives that are available to the transport industry – hybrid-powered vehicles have made a tentative step into the South African fuel market, (refer to the March edition of **FOCUS** for more detail). But there are other means of achieving the same goal. Certain combustion catalysts have been proven to drastically reduce carbon emissions as well as lowering fuel and maintenance costs, to name but a few advantages. For instance, Catalyst Manufacturer, Fuel Effect, for instance, can guarantee that all fuel containing its combustion catalysts meets SABS 342. It is also credited by various manufacturers. "In this industry, the word 'additives' is almost taboo; there is so much corruption out there that consumers are never too sure what they are getting," says André Steyn, managing director of Fuel Effect. "The composition of our combustion catalyst is different from others, based on the fact that it is made up of 94 percent pharmaceutical oil. It increases lubricity and viscosity, and is perfectly

PH balanced, reducing hydrocarbon emissions and ultimately saving the operator on fuel."

OIL RECLAMATION

Another environmentally friendly practice is the recycling or reclaiming of oil that would otherwise be disposed of. The reclamation of oil is deemed more suitable for oils in transformers, hydraulics and turbines, and the process includes cleaning, drying and, where necessary, absorption, to remove colour, acids and sludge. Apparently the lubricant can then be treated with additional additives and put back to work. Oil recycling, on the other hand, involves re-refining to produce new base oil, which is then sold as fuel oil. Interestingly, the reprocessing of oil into industrial fuel is popular in South Africa. The motivation behind the salvaging procedure is, simply, environmental protection, but reclaiming lubricating oil also has the potential to reduce oil purchases and disposal expenses, thus reducing overall running costs. More information regarding the reclamation of oil is available on the Internet (www.rosefoundation.org.za/sitemap.html).

BIODIESEL

Other alternatives to conventional fuel can be derived from diesel substitutes such as vegetable oil, animal fats and recycled cooking oil. "Biodiesel is typically produced by the chemical reaction of a vegetable oil or animal fat with methanol or ethanol, through a catalyst, to produce glycerine and biodiesel (otherwise known as methyl or ethyl esters)," explains Darryl Melrose, owner of Bio Diesel SA. Technically speaking, biodiesel can be used in its pure form, or blended with petroleum diesel for use in diesel engines. The success of biodiesel is based on its physical and chemical similarities to petroleum diesel. "The benefits of biodiesel are tremendous. Compared to traditional forms of fuel, biodiesel produces 80 percent less carbon dioxide, 100 percent less sulphur dioxide and up to 75 percent less exhaust emissions. It has also been highly effective in terms of prolonging the lifespan of engines," Melrose continues. As with all things, there are a few drawbacks: users may experience a 10 percent reduction in power, but that may be considered negligible compared to the advantages of "going green".



Oil, the lifeblood of the transport industry.