



The green option

Could cheap, renewable biofuel be the ideal replacement for red diesel?

No sooner had the red diesel derogation been lost than the word 'biodiesel' was being bandied around as the answer to every motorboater's prayers. But what exactly is biodiesel and why could it be the future fuel for boaters in the UK?

Biodiesel is an alternative to petrodiesel and, as its name suggests, it is made from vegetable oils or animal fats. As well as being renewable, biodiesel is non-toxic, biodegradable and produces fewer emissions in both its use and its life cycle. When burnt, it gives off reduced levels of carbon monoxide and completely eliminates emissions of sulphur. Over its lifetime, it produces considerably less CO₂ than petrodiesel because, although it still produces CO₂ when burnt, it absorbs it during the process of growing the crops used to create it.

Biodiesel in its purest form is made from 100% renewable resources and is known as BD100. It can be mixed with mineral diesel to various concentrations, with the number in the name giving the percentage of bio to mineral diesel. Some garages sell what is labelled as biodiesel, but it is usually a BD5 fuel with just 5% biodiesel to 95% mineral fuel. While this goes some way to eking out the natural resources left in the world, it does nothing to help us financially, as it is usually more expensive than 100% mineral diesel.

Is biodiesel cheap?

At the moment, yes. BD100 biodiesel is currently taxed at 28.35 pence per litre (ppl) for road use, and 3.13ppl for off road (plus 17.5% VAT), as

opposed to 48.35ppl for road diesel and the 7.69ppl currently levied on red diesel. This means that once produced, a litre for road use is priced around 79p while for off road use it would cost around 55ppl.

Unfortunately, and going against all common sense and environmental issues, the Treasury plans to force boaters to pay the road-going rate of duty of 28.35ppl for biodiesel.

This decision is not something the government can blame on the EU. While it may be EU policy that boaters will no longer be allowed preferential tax rates on their fuel, it is up to individual governments to decide what rate of duty they apply to biodiesel. Germany, among others, is leading the way here with biodiesel being zero-rated. Here in the UK, taking into account the cost of making the stuff and the higher rate of duty, biodiesel isn't that attractive, saving just 10ppl over forecourt white diesel.

Bizarrely, because of the different levels of taxation throughout the EU, it will be more expensive to buy biodiesel in the UK than to buy mineral diesel in Spain. So much for this Government's green credentials.

Biodiesel and your engine

As well as the minor savings to be made by using the green alternative, there is also a big question mark relating to the effect of running BD100 biodiesel through your engine. Engine manufacturers, including Volvo Penta, suggest that biodiesel is safe to use at no more than 5% strength mixed with mineral diesel. If your engine is under warranty it is unlikely that any claim would be honoured if you went above this. There is no doubt that any diesel engine will run entirely on BD100, but there may be reliability issues. It's hard to get facts but rumours include blocked filters, failed rubber hoses/seals, and thickening fuel over the winter.

There is certainly truth in some of these rumours. Biodiesel is a better solvent than mineral diesel, so it can clean the fuel system of deposits built up over time. These deposits can find their way into the filter and cause a blockage. So, if you go down the biodiesel route, expect to undertake frequent filter changes until these deposits have been removed.

It is also worth noting that people with experience of using biodiesel in cars have reported quieter running and reduced smoke. However, there is the slight issue that your boat will smell like a chippie, but this is only a problem if you are averse to fatty foods or trying to diet!

Where can you get it?

This is another sticking point. Unless marinas start to stock BD100 biodiesel, which is unlikely unless the engine manufacturers give it their backing, you are limited to two choices, both of which involve time and effort.

There are places that sell BD100 biodiesel on the internet. They deliver to your door in lots of 25lt or in a bulk 1000lt container. Express Biofuels is currently charging 79.5ppl with all duty paid, delivered free to your door as long as you are within 50 miles of its Hertfordshire base.

The other choice is to make it yourself. This is not as crazy as it sounds. We can't find any regulations to stop every boat owner having

their own refinery in their garage or shed, although the HSE advises against the home manufacture of biodiesel by untrained persons in unsuitable premises. The main considerations are the storage and handling of methanol and sodium hydroxide, both of which can cause health problems. Bear in mind, though, that you'll still have to pay the excise duty to HMRC.

Refining kits are widely available on the internet, and £700 can buy you a refinery capable of producing 50lt a go. Bigger units are also available, but you will need to source your raw materials and lug numerous 20lt containers to your boat.

But, if you have ever owned a petrol boat you'll know what that is like!



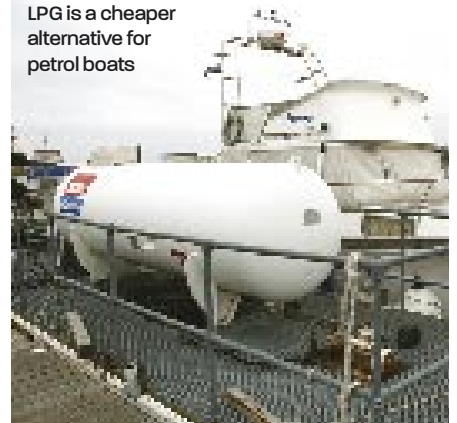
MBM verdict

Biodiesel could have been a viable alternative if only the taxman had left well alone. As it is, saving 10p a litre is not enough to justify experimentation.



Refining kits are available for home-brew biodiesel

LPG is a cheaper alternative for petrol boats



What about LPG?

While the loss of the derogation will have no effect on petrol boat owners, there may be diesel boaters thinking of selling up, buying a cheaper petrol boat and converting it to run on LPG, which is priced at around 45ppl.

The first thing to consider is the cost of the conversion. A decent marine conversion will be around £3000 for a single engine or £5000 for a twin – and that pays for an awful lot of fuel. Then there is the availability. Since Calor Gas withdrew its support of marine LPG, filling points have reduced from a peak of 27, to just six. Even if you berth in one of those six locations, you'll be limited to day-boating out of your home berth or filling up with petrol at over £1 a litre whenever you go anywhere.

Another side effect of Calor's withdrawal is that there is now no organised conversion network. You'll need to find someone who understands the differences between marine and auto conversions, particularly with regards to escaped gas, bilge venting and alarm systems with engine shutdowns. And as LPG is slightly less efficient than petrol, you'll end up using around twice as much LPG as you would diesel in the same boat – so even though it may be half price, your fuel bill could end up about the same.

Perhaps most importantly, LPG converted boats have not been proved to be reliable. Certainly there are one or two exponents of gas who are very pleased with their conversions and suffer no problems, but for every one of them, there are numerous others who have tried and suffered expensive failure – including me.

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Information

Government agencies

HM Customs and Excise, www.hmrc.gov.uk
Health and Safety Executive, www.hse.gov.uk

Fuel suppliers & further information

Express Biofuels, www.expressbiofuels.co.uk
Ecotec Resources, www.etruck.co.uk

Refining kits

British Bio-diesel, www.british-bio-diesel.com
Ecotec Resources, www.etruck.co.uk
Future Fuels, www.biodiesel-fuel.co.uk

Training in biodiesel production

Ecotec Resources, www.etruck.co.uk