

# The Inland Waterways Association Response to HM Treasury Call for Evidence on the Use of Red Diesel

Response closes 1145 pm on 30 June 2017  
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## Introduction

In the Spring Budget 2017 government called for evidence on the use of marked ('red') diesel (as used in many inland waterways craft) in order to improve its understanding of how it is used.

The Inland Waterways Association (IWA) is a registered charity, founded in 1946, which advocates the conservation, use, maintenance, restoration and development of the inland waterways for public benefit.

IWA members' interests include boating, towpath walking, industrial archaeology, nature conservation and many other activities associated with the inland waterways.

IWA works closely with navigation authorities, other waterway bodies, and a wide range of national and local authorities, voluntary, private and public-sector organisations.

IWA is responding to this consultation as an organisation with interests in the long term use and development of inland waterways. Its response relates to the consultation Section 3.3, with particular reference to:

- our opinions on the red diesel license scheme
- our opinions on the use for which red diesel is permitted on inland waterways craft as referenced in Chapter 2, Box 2.A
- our opinions on the environmental effect of red diesel use, particularly in urban areas where use is more concentrated

## IWA Response to Red Diesel Consultation

The 2008 agreement made with Her Majesty's Revenue and Customs (HMRC) whereby boaters can purchase red diesel for propulsion whilst paying the required standard rate of tax, with a form of self-declaration allowing a proportion of the diesel used for heating and lighting to be purchased at a lower rate of tax, is established, known to the supply chain and works well. Investment to provide an adequate supply is in place and maintained, and IWA and its members consider these arrangements remain appropriate and pragmatic for the present day waterways usage.

Whilst IWA understands this call for evidence does not imply a change in the government's view on eligibility criteria for red diesel, it is nevertheless useful to reiterate some of the issues that could arise if HMRC considered moving to removing the pragmatic approach agreed in 2008:

- Requiring private boat owners to use unmarked diesel would require retail suppliers such as inland waterway marinas and boatyards, and the occasional canal-side garage or boat-mounted mobile fuel merchant, to either duplicate their 'unmarked' systems with a 'marked' supply, or replace their 'unmarked' diesel supply systems with marked systems. In turn, owners would have to either replace or have cleaned (if this is possible) their engine fuel systems, to run on 'unmarked' diesel. Owners would also potentially have to duplicate fuel storage and boat internal distribution pipework, to maintain 'marked' supplies for their domestic usage.
- Assuming commercial boats can continue to use 'marked' diesel, there would be complications over who was and was not permitted to use 'marked' fuel, particularly in the grey area of shared boats. Here boats are owned by groups of owners jointly, either with or without the assistance of a professional management organisation.
- Private boat owners are currently able to avoid having to provide storage and pipework to handle two different types of otherwise the same fuel, one taxed and used for boat movement and the other partially taxed and used for domestic purposes such as heating or power generation. The air pollution created by the boats remains the same in both cases.

In many cases a single boat engine is used in a stationary mode to generate power (to operate larger domestic machinery such as washing machines or microwaves, and to recharge larger batteries providing continuous power via an inverter system). For almost all boats, the engine will be used when under way to recharge batteries to start the engine, and to provide lighting and low powered appliances such as gas cookers, radios, TVs, pumped water systems, electric vacuum and pumped toilets and control & pump heating systems (whether LPG or red diesel fuelled).

In terms of current usage of marked diesel, this has remained broadly similar since the 2008 agreement. Newer diesel engines have contributed to reduced consumption and air pollution, offset in part by a small increase in the numbers of boats on inland waterways. Geographically, boats fuel every 4-6 weeks of movement, probably taking on 100-200 litres or more depending on where they are going to rather than where their 'home' mooring is. Private recreational boats tend to be used more intensively during the Easter- Autumn period of better weather, and this is particularly true of hire fleet commercial boats.

With regard to potential alternative fuels for boats, it is hard to better the diesel fuelled systems on all but the smaller boats. The ability to provide reliable and appropriately sized power for boat movement along inland waterways including some large rivers, and a wide range of domestic appliances, attracts new owners and new users. Alternative liquid fuels such as petrol are intrinsically more dangerous to handle, create equally serious water pollution if spilled and are much less available than diesel at the waterside. Using LPG as a fuel for motive power has similar difficulties with no supply chain and safety issues, particularly on board a boat which is effectively a sealed 'pool' into which heavier than air gas can leak. Any existing risk is managed by limiting volumes kept on board, and ensuring the storage cylinders vent overboard- however for the volumes of LPG necessary for propulsion, a leak would hazard anyone passing by with a running engine.

There are and have been some examples of hire boats offering battery powered boats, such as those operated by Castle Narrowboats on the Monmouthshire and Brecon Canal. However the infrastructure provided requires 6 dedicated charging points and moorings over 33 miles of canal, which if scaled up to cover the 6,500 miles of navigable and formerly navigable canals and rivers would require very significant investment.

There has been some limited work on 'hybrid' systems, generating power to run an electric main propulsion motor which can provide quieter and more efficient overall running by providing large amounts of battery storage for both propulsion and domestic power. However the hybrid generation unit tends to currently remain a diesel engine, which would then be generating electricity (ie using 'unmarked' diesel) for all its output, whether for motive power or domestic appliances.

There are a few examples of more radical alternative fuels such as hydrogen through a fuel cell for a hybrid power unit for such a system, with the advantage of cleaner exhaust gas emissions (water) but the disadvantage of no current fuel distribution systems.

Further reductions in fuel exhaust emissions from conventional diesel-powered systems can be obtained by providing 'mains power connections' as are seen in marinas (for permanent berths) or on touring caravan sites. These could be used for overnight moorings, and provide recharging of batteries for domestic appliances, direct power capacity for larger domestic appliances, and some capacity to recharge traction batteries for motive power. Providing such power linked to grid power outlets would avoid or reduce the need to run stand-alone small generators for appliances and engine starting batteries, and take advantage of more economic and cleaner electricity generation at scale.

At the present time, battery technology to enable an electrically powered boat to run on inland waterways does not seem reliable or affordable to the same extent as the current conventional technology motive power units. All the technology is available to provide power outlets, however the investment required to provide adequate numbers to meet demand, in sufficient locations to satisfy the disparate moorings in both urban and rural locations is not yet likely to get a return. Equally, assuming boat power develops in parallel with or just behind motor vehicle electric power, the waterside connection capability is needed both to reduce current emissions and service new technology battery and motor power.

## Conclusions

At present that the marked diesel scheme works smoothly for inland waterways craft, and the supply chain. Moving away from this arrangement is likely to lead to increased cost for users and suppliers, which in turn may reduce supply or reduce craft seeking refund of the tax otherwise levied on the domestic use of the fuel.

1. The market for private use of red diesel on inland waterways has remained similar to that pertaining in 2008 and before, and is not expected to change significantly in the next 10 years. Boat engines are long lived, and normally repaired rather than changed wholesale. Engines are also backed up by a service and supply chain of expert small businesses able to maintain them.
2. The level of electrical accessories fitted into modern inland waterways craft has expanded in range and complexity, with a corresponding rise in the need for electrical power from the (normally only) motive power on board. This increase is analogous to the range of domestic household equipment found at home. In some circumstances, these appliances may need stand-alone generation to power large appliances, or to recharge domestic (ie, not for engine starting) batteries which have not been recharged during cruising. Some of these small generators will be diesel powered, some petrol.
3. Changing the level of taxation on the fuel used for motive power will not reduce the level of pollution from boat exhausts, as requiring use of 'unmarked' diesel will create the same air pollution. It will however increase cost for boat owners and operators, with no apparent benefit to anyone.

4. In order to reduce somewhat the level of pollution, government could choose to support or incentivise provision of waterside electrical 'hook-ups' as seen in long term berths in marinas and on some touring caravan sites. These, using existing technology such as debit cards or similar pay-as-you-go systems, could enable boaters to use waterside power supplies and minimise their own motive power generation. This could focus on urban areas specifically to reduce air pollution, or areas on the wider inland waterways network in general.

5. As vehicle technology develops, it may become feasible to provide vessels with cost-effective replacement power units which are diesel hybrids, or entirely battery powered electric motors. With waterside connections, and improved battery technology, it may then be possible to reduce or eliminate the currently ubiquitous diesel engine for some applications. For many inland waterways craft, weight is also less of a problem than in vehicles. However, significant investment would be needed to get facilities spread widely enough to make long inland waterway journeys and holidays in remote parts of the network desirable and viable.

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