



**SUITABILITY OF IMO LIABILITY AND COMPENSATION REGIMES
WITH RESPECT TO ALTERNATIVE FUELS**

Biofuel blends and the international liability and compensation regime

Submitted by CMI

SUMMARY

Executive summary: This document provides the Comité Maritime International's (CMI) analysis of the international liability and compensation system regarding biofuels and biofuel blends for the Committee's use, as appropriate.

Strategic direction, if applicable: 1, 2 and 7

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Action Requested: Paragraph 23

Related documents: LEG 112/13/2, LEG 112/13/5, LEG 112/16 and LEG 113/INF.2

Introduction

1 Biofuels and biofuel blends are a key part of the decarbonization of shipping and are already being widely used. In the last few years, their uptake has increased considerably, largely voluntarily. In the near-term, biofuels and blends are an attractive option (as a transition fuel) to meet carbon reduction targets, and further uptake is expected. As biofuel uptake increases, the legal position of biofuels and biofuel blends, when carried as cargo and used as bunkers, in respect of civil liability and compensation issues should be clear. At present, it is not.

2 This paper seeks to add to the debate on the legal classification of biofuels and biofuel blends. It concludes that pure biofuels do not fall under the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunkers Convention) or the International Convention on Civil Liability for Oil Pollution Damage, 1969 (Civil Liability Convention). While there are good arguments as to why biofuel blends should fall within the scope of these conventions, significant issues remain unresolved. Cargoes of biofuels and biofuel blends will both fall within the scope of the Protocol of 2010 to the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 (the 2010 HNS Convention), but that convention is not yet in force. To the extent that they do not come within one of the above conventions, biofuel and biofuel blend bunkers and cargoes will be within the scope of the Nairobi International Convention on the Removal of Wrecks, 2007 (Wreck Removal Convention). However, this convention is limited to wreck scenarios and does not respond to claims from third parties, so a gap would remain.

3 Further research is required as to the consequences of biofuel and biofuel blend incidents. This will provide guidance on the liability and compensation regime necessary to meet these consequences, including the types of damage and appropriate levels of compensation. In the meantime, there is a real need for an interim solution to provide clarity in respect of biofuel and biofuel blends until an international regime is put in place.

4 An extended version of this paper including reference can be found on the CMI website ([Comité Maritime International - CMI](#)).

Nature of biofuels and biofuel blends

5 *Biofuels:* The term "biofuel" is a generic one for energy sources made from organic material, as opposed to fossil sources. For example, feedstock biomass such as vegetation, algae, vegetable oils, and animal waste. Biofuels are considered to be renewable resources, whereas fossil fuels are not. The chemical composition and physical characteristics of biofuels vary depending on the feedstock and production process. As Lloyd's Register warns: "it should be understood therefore that "no one biofuel product can be used as a reference fuel for all biofuels". For the purposes of this paper, biodiesel and biodiesel blends are considered, given the biodiesel blends' commonalities with conventional fuels. There are two principal types of biodiesel blends currently used in shipping: Fatty Acid Methyl Ester (FAME), (specifications EN 14214 and ASTM D 6754); and Hydrotreated Vegetable Oil (HVO) (qualifying as a paraffinic diesel with specification EN 15940).

6 *Biofuel blends:* Biodiesel is – at least so far – rarely used in pure form (B100). It is currently more commonly blended with fossil fuels in various percentages. Biofuels can be blended with persistent mineral oils, such as VLSFO (Very Low Sulphur Fuel Oil), or non-persistent mineral oils, such as marine diesel (MDO). Blending more commonly takes place at bunkering hubs, meaning that biofuel blends are not yet generally carried over significant distances as cargoes. Currently, blends up to 30% biofuel (B30), e.g. with 70% diesel, are widely used as bunkers. A biofuel blend is a mixture, not a new chemical compound; the blending process does not fundamentally change the chemical composition of the individual components. The biofuel and mineral elements of a biofuel blend are physically mixed, but remain chemically distinct. Standards (e.g., ISO 8217:2024) therefore treat blends as mixtures, not new compounds. However, the component parts cannot, in practical terms, be treated in isolation. In the event of an incident, at the point of release and in the short term the mineral and biofuel elements will to some extent be indistinguishable and/or incapable of being dealt with separately.

7 *Pollution and incident response:* At present, little research has been conducted as to the consequences of a biofuel (blend) spill. In their 2024 paper, ITOPF make the following observations about the likely consequences of a biofuel incident in terms of pollution and clean-up response: "...biodiesel's relatively similar fate and behaviour in comparison to conventional fuels means that claims arising from a spill would be similar to those associated with conventional hydrocarbon oil spills." Further research is required as to the consequences of biofuel and biofuel blend incidents.

Analysis of the coverage of biofuel and biofuel blends by the international liability and compensation conventions and other regimes

The CLC and Bunkers Convention

8 The international civil liability regime for oil and bunker oil pollution comprises various conventions, including the Civil Liability Convention, the Bunkers Convention, the Wreck Removal Convention and the 2010 HNS Convention (albeit this is not yet in force). The definitions of "oil" in the Civil Liability Convention and the Bunkers Convention both include

the phrase "*any hydrocarbon mineral oil*" (Art. 1 under 6 cf. under 5 Civil Liability Convention; Art. 1 under 9 cf. under 5 the Bunkers Convention). The Civil Liability Convention also requires that the oil is "persistent" (Art. 1 under 6 cf. under 5). By contrast, the Wreck Removal Convention uses the term "*bunker fuel oil*" (Art. 5 under e and art. 6 under h). This term is not defined and does not include the word "*mineral*", although it does make a connection with the broader term "oil", which is not defined either.

9 *Pure biofuels:* Applying the commonly understood meaning of "*hydrocarbon mineral oil*", being a mixture of chemicals from crude oil distillation and refining, comprising hydrogen and carbon, neither convention will cover pure biofuel (B100), because it contains no mineral oil. The ordinary meaning of the phrase "*hydrocarbon mineral oil*" is unambiguous. In addition, the IOPC Funds' definition to determine whether oil is "*persistent*" under the Civil Liability Convention, gives rise to difficulties in relation to pure biofuels, despite the physical persistence of some of these oils, because they cannot tolerate the distillation process.

10 *Biofuel blends:* The question of whether *biofuel blends* fall within the scope of the Civil Liability Convention and the Bunkers Convention is more difficult. One of the most important considerations is whether a distinction can and may be made between the various components of biofuel blends. When considered as a single mixed product, is it within the natural and ordinary meaning of the term to describe the blended biofuel as "*any hydrocarbon mineral oil*"? The blended product is a mixture of chemicals from crude oil distillation, but one which also contains bio-derived chemical compounds or products, including HFO, VLSFO, MDO and MGO. The term "*any hydrocarbon mineral oil*" could also include biofuel blends, insofar as these do contain hydrocarbon mineral oil compounds, also in view of the word 'any' in the definition of 'oil'. On balance, interpreting hydrocarbon mineral oil as including biofuel blends is not an unnatural reading of the term, nor does it lead to an unreasonable result.

11 In applying the term in such a way, are there limits to the percentage of biofuel in the blend that would mean it no longer falls within the meaning of the phrase? It would seem that, insofar as the phrase is an umbrella term and the biofuel blend could not be described as a mineral oil-free fuel, all blends are capable of falling within the meaning of the phrase. It could be that at very high biofuel percentages (assuming these would ever be used in practice), the proportion of mineral oil is considered *de minimis* and the biofuel blend is not treated as a hydrocarbon mineral oil for the purposes of the conventions.

12 To the extent that there is ambiguity as to whether the term hydrocarbon mineral oil can include a blended biofuel product, the object and purpose of the two conventions are of relevance. However, there are limits to what is permissible under the principles of the interpretation of treaties. The two conventions were negotiated and agreed between Member States to recompense the victims and fund the clean-up activities of oil pollution incidents. At the time the two conventions were concluded, biofuels were not in use in shipping; had they been, it is almost inevitable that their position and that of blends would have been clarified. Because of their similar usage and characteristics to mineral oils, it could be argued that biofuel blends containing mineral oil ought to come within the scope of the Civil Liability Convention and the Bunkers Convention. Also, the potential damage caused by the mineral oil may be difficult to separate from that caused by the biofuel blend components and preventive measures may need to be taken to prevent the damage caused by the hydrocarbon mineral components. Such a broader interpretation would avoid regulatory gaps, given that biofuels and blends can cause pollution damage, albeit with potentially/partially different characteristics.

13 *Relevance of MARPOL to the interpretation of the CLC and Bunkers Convention:* In 2022, the IMO's Marine Environment Protection Committee agreed on a new unified interpretation for regulation 18 of MARPOL Annex VI, on fuel standards. It has been considered that "the unified interpretation allows for the common understanding that fuels with up to 30%

biofuels blended into regular petroleum derived fuels will always meet the SO_x and NO_x limits of regulations 14 and 13 as required by regulation 18.3.2, thus no flag State permission is needed for using such alternative fuels."

14 As far as biofuel as cargo is concerned, in 2025, a change was made to the IMO interim guidance for the carriage of biofuel blends. Previously, oil tankers were permitted to carry biofuel blends containing up to 25% biofuel, while blends exceeding this limit were restricted to transportation on chemical tankers. On 12 May 2025, *MEPC.1/Circ.917, Interim guidance on the carriage of blends of biofuels and MARPOL Annex I cargoes by conventional bunker ships*, changed this by permitting oil tankers under MARPOL Annex I to transport blends of not more than 30% by volume of biofuel.

15 Whilst the MARPOL provisions' interpretation is reflective of industry usage of biofuels, it does not prescribe the percentage level at which biofuels are to be treated as equivalent to or synonymous with fossil fuels for the purpose of other IMO conventions.

16 *Relevance of IOPC Funds to the interpretation of the CLC and Bunkers Convention:* Pure biofuels do not qualify as persistent oil within the meaning of the Civil Liability Convention. Biofuels do not contribute to the IOPC Funds and neither do biofuel blends. However, in view of the difference between the definition of oil under the Civil Liability Convention and contributing oils under the Fund Conventions, the fact that no contribution is made to the Funds in itself seems insufficient to disqualify biofuel blends as "*hydrocarbon mineral oil*" within the meaning of the Civil Liability Convention and the Bunkers Convention or at least to conclude that pollution by biofuel blends is not covered by the Conventions.

17 *2010 HNS Convention:* Whilst biofuels and biofuel blends will be covered by the HNS Convention 2010 when being transported as cargoes, it will not cover biofuels and biofuel blends onboard a ship as bunkers. If biofuels and biofuel blends are considered to fall under the Civil Liability Convention, the 2010 HNS Convention will not apply (Art. 4.3 2010 HNS Convention).

18 *Wreck Removal Convention:* The Convention refers to cargo but provides no restrictions on what this cargo might comprise. The definition of "*wreck*" includes both "*any object that is or has been on board such a ship*" and "*any object that is lost at sea from a ship*". The defined term "*hazard*" includes "*any condition or threat that may reasonably be expected to result in major harmful consequences to the marine environment, or damage to the coastline or related interests of one or more States*". Taken together, these definitions would encompass a cargo of biofuel or biofuel blend. The phrase "*bunker oil*" used in the Convention could reasonably be interpreted as covering pure biofuel and biofuel blends, to the extent that they do not fall within the scope of the Civil Liability Convention or the Bunkers Convention.

19 *OPA-90:* The United States of America is not a State Party to the Bunkers Convention. Discharges of oil in the waters of the US, EEZ and US overseas territories are covered by the Oil Pollution Act 1990 (OPA 90). The definition of "oil" under OPA-90 includes "oil in any kind or in any form, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil" (Section 1002 OPA 90). In February 1995, the US Coast Guard issued a letter containing a non-exhaustive list of the products that would be considered "oil" for the purposes of OPA-90; FAME is included in this list. It is widely understood that B100, as well as biofuel blends, would be classified as "oil" under OPA-90 and would therefore be subject to spill response and liability requirements.

Possible solutions

20 Without guidance from IMO, the question of whether a biofuel blend falls within the scope of the conventions would be a matter for courts in individual Member States. This is unlikely to

result in a uniform interpretation and application of the conventions. An agreed position should reduce the risk of conflicting decisions. Possible solutions to reach a uniform approach might include the following:

- .1 *Unified Interpretation.* The adoption of a unified interpretation of the phrase "hydrocarbon mineral oil" as used in the Civil Liability Convention and the Bunkers Convention. This approach was taken in the case of the test for breaking the owner's right to limit liability under the IMO Conventions, resulting in clarificatory resolutions in December 2021 in relation to the LLMC 1976 and 1996, and the Civil Liability Convention and the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT 1992).
- .2 *New convention or Protocol to the Bunkers Convention and/or CLC.* Another solution is to develop a new international regime. The IMO's Legal Committee (LEG 112/16) is considering the appropriate regime for alternative fuels. It seems sensible to include biofuels and biofuel blends in these considerations. These may result in an Alternative Fuel Convention or a protocol to the Bunkers Convention (and possibly CLC). This option would mean that the specifics of biofuels and biofuel blends could be duly taken into account.
- .3 *Guidance from the Legal Committee.* As part of its work considering an appropriate regime for alternative fuels, the Legal Committee could provide interim guidance, which could build on the technical work undertaken in relation to biofuel blends at MEPC in 2025.
- .4 *Voluntary agreement.* An interim solution could be a voluntary agreement amongst shipowners in respect of biofuel and biofuel blend incidents. This would ideally contain similar provisions to the other liability and compensation conventions and could bridge the gap at least until the characteristics of an appropriate international regime have been duly considered.

Conclusion

21 The usage of biofuels and biofuel blends is increasing. Pure biofuels are not covered by the Bunkers Convention or the Civil Liability Convention. There are good arguments why biofuel blends should fall within the scope of these conventions, but significant issues remain unresolved. As with alternative fuels more generally, this situation is not conducive to the uniform application of these conventions or the proper and effective compensation of victims in the event of a biofuel or biofuel blend incident.

22 Further scientific and technical research is required into the consequences of biofuel and biofuel blend incidents. This will provide guidance on the liability and compensation regime necessary to meet these consequences, including the types of damage and appropriate levels of compensation. In the meantime, there is a real need for an interim solution to provide clarity with respect to biofuels and biofuel blends until an international regime is put in place.

Action requested of the Committee

23 The Committee is invited to note the information contained in this document and take action as it may deem appropriate.