

Consultation - Targeting net zero - Next steps for the Renewable Transport Fuels

RTFA response

The Renewable Transport Fuel Association was formed in August 2021, with 12 founder members. It now has 34 members, including all UK bioethanol and biodiesel producers, all suppliers of biomethane to transport, many of the companies seeking to produce development fuels and sustainable aviation fuel along with renewable diesel and biopropane suppliers. For more information see www.rtfa.org.uk

Some of the positions in this response were developed in advance of the consultation publication. Following the publication three draft versions of the answers were circulated for comment, and a meeting was held to discuss viewpoints and finalise the response.

General comments

The RTFA agrees with many of the detailed proposals set out in this consultation, however the overarching problem with the RTFO is its spectacular lack of ambition, even more remarkable in the context of the recent announcement anticipating a tightening of the GHG reduction target to 78% by 2035. How can DfT suggest an increase in the target that is so modest that the overall result is a reduction in the amount of renewable fuel? That is moving backwards. On Recycled Carbon Fuels, we agree with their inclusion, but as drafted, the reward structure and thresholds are unlikely to have the desired effect.

We understand that there is a concern over the availability of sustainable biomass feedstock and a worry that unsustainable biomass will be pulled into the UK market. That is not a reason to be cautious for the reasons set out below.

- There is significantly more sustainable biomass available. The RTFA commissioned Prima to write a report on the availability of sustainable biomass, which concluded there are sufficient sources to justify an overall target of above 21%. This report can be accessed from <https://rtfa.org.uk/2021/04/08/rtfa-publishes-report-on-the-justification-for-a-significantly-increased-rtfo-target/>

There are also safeguards against unsustainable biomass use

- The UK's sustainability criteria are among the most rigorous in the world. Nevertheless, should DfT believe unsustainable biomass is entering the UK, it is in DfT's gift to set even more stringent targets.
- There is a safeguard in the fact that the RTFO target can be bought out
- RFNBOs and Recycled Carbon Fuels are alternatives to biofuels, meaning that fulfilment of the RTFO target is not required to be met solely by biofuels.

Another concern sometimes raised is the limitation imposed by blend walls. Similarly this cannot be a justification for such poor lack of ambition. The market has options for going beyond blend walls, through blending of drop in fuels (both for diesel and petrol), plus retail fuels can move to higher blend levels (e.g. B10, E15, E85).

The RTFO is desperately in need of a proper assessment of future target levels, taking into account the move to electrification. We agree with increasing target by 1.5% from 2022 (to accommodate E10 without driving out double counting biodiesel), but target levels from 2023 onwards need further consideration. Implementing an utterly unsatisfactory increase to 2032 gives the impression that the job is done, when it clearly is not.

Renewable fuel supply trajectory to 2032 and subsequent years

1. Should we increase, decrease or keep the main obligation at the same level? Please provide evidence and reasoning for your answer.

The main obligation should be increased, and significantly beyond the proposals in the document.

In the introduction to this Consultation the Secretary of State proudly states that the UK has committed to reducing economy-wide greenhouse gas emissions by at least 68% by 2030. Given that the Transport sector is currently the largest GHG emitting sector (27% in 2019) the proposals and recommendations made in this consultation fall well short of helping the country deliver this commitment.

The drive to electrification and EVs is likely to have a much bigger impact on reducing GHGs in transport than is indicated in the EEP-based projections, which underpin the modelling and impact assessment figures. This is positive news but will actually result in a significant reduction in real biofuel use over the next ten years. Even a 5% increase will see the amount of biodiesel consumption fall. An unambitious target will have a crippling effect on much-needed investment. The consultation document itself acknowledges (page 21, end of first paragraph) "If the decrease drops too quickly this may deter long-term investments in [alternative low GHG] fuels. Such investments are needed, especially for the modes which are more difficult to electrify such as aviation."

If the DfT wants to encourage UK investment in the sector, it must ensure that biofuel consumption, at the very minimum, continues to grow, over the next 10 years at least. Plus, if DfT wants transport to contribute effectively to the commitment to a 68% (or 78%) reduction in economy-wide GHG emissions, then further significant reduction in emissions from the current fossil fuel consuming fleets is needed.

The increase if 1.5% for 2022, to take account of the introduction of E10, but with respect to an increase out to 2032, the Obligation level should be taken to at least 21%, as recommended by the study the RTFA commissioned from Prima. That would be achieved by a 1% increase per year from 2023. The evidence and reasoning for a target of 21% are provided in the report, which can be downloaded from <https://rtfa.org.uk/wp-content/uploads/2021/04/RTFA-Feedstock-Availability-Summary-Report.pdf>

2. If you agree that we should increase the RTFO obligation, what level should it be increased by; 1.5%, 2.5% or 5%? Please provide evidence and reasoning for your answer.

None of the above increases are sufficient. The DfT's own modelling suggests that an increase as modest as 5% results in an overall *decrease* in the absolute amount of renewable fuel consumption. Given the hugely ambitious carbon budgets and GHG reduction targets signed up to by this Government, to do anything other than apply the maximum pressure to driving down the consumption of fossil fuels in transport would be irresponsible. Furthermore, CO₂ emissions are cumulative, giving all the more reason for swift action.

Regarding DfT's often-expressed concern that setting the target too high will pull in less sustainable biofuels, there are various reasons why the department can take comfort that this should not happen.

Firstly there is evidence of substantially greater volumes of sustainable fuels and feedstocks, sufficient to justify an overall target of at least 21%. The Prima report referenced above clearly shows that concern over the availability of sustainable feedstocks should not be a deterrent to significant increase of the obligation level.

Secondly, the sustainability criteria themselves would prevent influx of unsustainable materials. The UK's sustainability criteria are among the most stringent in the world. If risks still remain, or arise in the future, then the criteria and checks can be strengthened, as has been done in the past. It is in DfT's gift to do this, if it has concerns.

With respect to blend walls, this also should not serve to curb ambition. The market has options for going beyond blend walls, through blending of drop in renewable diesel and bio gasoline. The biodiesel and bioethanol blend levels in retail fuels can also be increased in future, e.g. (E15, E85¹) and B10. Plus commercial fleets can use higher biodiesel blends (B30, B100). Finally, there is also the longer-term option of drop in development fuels.

Introducing support for recycled carbon fuels

3. Do you agree or disagree that recycled carbon fuels should be eligible for support under the RTFO given their potential to deliver GHG savings?

Agree, but the target should be increased to compensate for this addition. The RTFO is a tradable mechanism, and introductions of new fuel sources have the potential to impact on the value of certificates, to the detriment of existing producers.

Increasing the potential fuel pool of sustainable fuels is essential to meeting the UK targets and RTFO support can accelerate development of these new fuels. RCFs can

¹ E85 is widely available in France, Sweden and Finland. It can be used in flex-fuel vehicles and in regular petrol cars equipped with a simple conversion system For more information see <https://www.epure.org/news/e85-superethanol-gets-a-boost-in-france-and-finland/>

diversify the fuel mix, increase security of supply, help with waste management objectives, foster innovation and create job growth.

The Renewable Transport Fuel Obligation addresses two objectives:

- The UK's commitment to net zero.
- A desire to move to a circular economy.

It is clear that recycled carbon fuels can help meet these objectives. Waste fossil feedstocks can produce fuels that are low carbon and sustainable. The RTFA supports their inclusion in the RTFO subject to the following:

1. The feedstocks used to make RCFs must meet the same sustainability criteria as renewable fuels.
2. Their contribution should be incremental – RCFs should not displace renewable fuels. This again suggests the target should be increased.

4. Do you agree or disagree that only RCFs derived from refuse derived fuel and industrial wastes gases should be eligible for RTFO support? If not, please provide an alternative approach and set out why.

We disagree. The RTFA supports the proposal that RCFs derived from refused derived fuel and industrial waste gases should be eligible. However, there are likely to be many other feedstocks that could meet the policy objectives and if a feedstock can be shown to meet the objectives it should be possible for it to qualify. This could be done through an applicant demonstrating a feedstock meets the objectives, and RCFs could be added as a category to the document containing lists of renewable fuel feedstocks that the administrator has assessed, on the DfT website. In particular there is one feedstock category with considerable potential and significant member interest and which should qualify from the outset – end of life tyres.

The principles that should be used to determine if an RCF should be eligible are:

- Is the feedstock sustainable? For RCFs this test revolves around alternative uses for the feedstock and the waste hierarchy. If the feedstock has a higher value application then it should not be eligible for support. If the only alternative uses are energy recovery or landfill then it should be eligible.
- Does the feedstock produce a fuel that has lower GHG emissions than fossil diesel? This can be assessed using the standard RTFO GHG methodology with the amendment for counterfactual energy production proposed in the consultation.

The DfT applies a third test based on economic performance in this consultation and rejects the eligibility of the fossil fraction of end-of-life tyres on the basis that the technology will be brought to market without support. *The RTFA rejects the use of an economic test completely.* This is for three reasons:

1. Support under the RTFO should be based on sustainability and GHG savings. The Government should not pick winners for support based on economic performance.
2. Refusing support for technologies that provide lower cost fuels increases the cost of meeting GHG and sustainability targets and the burden on fuel

consumers.

3. It is not necessarily even correct that the tyre-based transport fuel will reach the market without including the RCF element. Technical issues remain in refining tyre pyrolysis oil and additional refining steps (other than those in a conventional refinery) may be needed. As a result there is no production of fuels from tyres at present, making it impossible to assess economic performance. Furthermore, whilst co-products (steel and recovered Carbon Black) may supplement tyre pyrolysis, steel makes little if any financial contribution and recovered Carbon Black has yet to be used in road tyres, which is the only commercially-viable option for large-scale use.

The RTFA believes that the DfT and their advisors have not engaged sufficiently with industry to understand the technology. There are many benefits in diverting end of life tyres from their current fate to a circular economy solution. The document seems to assume that recycling already occurs or can be achieved with relatively little difficulty.

Currently, the main pathway for tyres is mechanical treatment and use in playgrounds or combustion to generate heat or electricity, either in the UK or in countries where environmental controls and health and safety regulation are much less rigorous, e.g. India. A much better environmental outcome can be achieved if end of life tyres are pyrolyzed to produce carbon char and Tyre Pyrolysis Oil (TPO), which can be used as a feedstock for producing part-renewable and part-low carbon fossil fuel. As noted in (3.) above, refining char into recovered Carbon Black and use at large scale is still unproven.

The elastomers in tyres typically have a fossil fraction of 65% in car tyres and 35% in truck, bus & off road tyres. There is no route for reusing or recycling car tyres and whilst some heavier duty vehicle tyres can be reused following retreading, their ultimate fate is the same as that of car tyres. The carbon benefit of diverting these elastomers to fuel is greater than using it for power or heat. Ultimately it may be preferable for them to be converted to chemical feedstocks, but fuel is an important stepping stone along the way and without the full support of the RTFA for both the renewable and RCF content, pyrolysis may struggle to get established. The consultation document notes that there can be a value for the other outputs of tyre pyrolysis, but there are challenges. The steel is difficult to reprocess due to its low density and rubber contamination, and the recovered carbon black often needs further intermediate treatment prior to incorporating into an end use (such as replacing virgin carbon black in tyres). The direct experience of members is that rCB sales have yet to be secured and dRTFCs must be significantly discounted in the investment case rendering even large-scale deployment marginal. These realities have been overlooked by DfT in their economic test.

In summary, the eligibility of feedstocks should be based solely on sustainability and GHG performance and should not include an economic test. The RTFA agrees that refuse derived fuel and waste gases should be included, as should fuels produced from end of life tyres.

5. Do you agree or disagree that RCFs produced from solid feedstocks should contain at least 25% biogenic content, by energy? If not, please set out an alternative approach with evidence as to why.

The 25% biogenic test is not ideal. The most important principle is that suppliers should demonstrate that they are not using material that could have an application higher up the waste hierarchy. Ideally this should be achieved without applying an arbitrary rule such as the 25% proposal, nor should it require fuel producers to demonstrate every potential alternative has been explored. The approach taken to the treatment of municipal household waste in the US Renewable Fuel Standard system has been shown to be effective. The RTFO unit should take a case-by-case approach (which it could at the application stage if the prospective fuel is a development fuel).

6. Do you agree or disagree that support for RCFs should focus on those RCFs which can meet the UK's future strategic needs? That is, that only RCF types which are equivalent to current development fuels should be eligible for support. As such they would be eligible for development fuel certificates and to count towards the development fuel sub-target under the RTFO.

Disagree. Whilst to date all potential RCF projects known to DfT are seeking to produce development fuels that is no reason to limit eligibility to only development fuels. As a general principle undue complexity should not be added to the RTFO. We cannot see any merit in widening the test for eligibility to RCFs to include an arbitrary assessment of their "strategic" importance to the UK. This introduces an unnecessary policy risk that may make it more difficult to bring fuels to market. Funders will need to assess whether the political view on what is strategically important is likely to change over time – possible leading to support being withdrawn.

Therefore, the RTFA recommends that all fuels produced from RCFs should be eligible for support.

The consultation also suggests that support should be limited to "Hydrogen when produced using carbon capture and sequestration (CCS)." This is not consistent with current RTFO rules which provide support to hydrogen made through gasification or pyrolysis without carbon capture. It also adds complexity by treating RCFs differently from other fuels without any particular justification.

7. Do you agree or disagree with the proposed GHG minimum thresholds and the timeline for increasing GHG emission saving criteria for RCFs? Please provide an explanation as to why.

The answers to questions 7, 8 and 9 are linked. The current combination of proposals is likely to be insufficient to incentivize the production of RCFs for transport.

It is essential that support levels are sufficient to generate an investment case, otherwise the introduction of RCFs into the RTFO is unlikely to have any impact. We believe the rewards should be the same as those for the biogenic fraction of waste-derived fuels (see Q9) and support the general principle that only fuels that deliver a substantial carbon saving should attract such RCF rewards.

The use of the counterfactual means that the proposed thresholds, although initially lower in numerical terms than the 65% for biofuels, are more challenging to meet. We recognise the three-way balance that the DfT is trying to strike between ensuring that only fuels with a clear environmental benefit are

incentivised, while setting thresholds that are achievable for real projects and making the rewards sufficient that those projects actually get built.

As an Association our members may have different positions with respect to these thresholds. Furthermore, what is realistic depends on the methodology chosen (see Q8). We urge the DfT to consult closely with those of our individual members who have reasonably advanced projects and can share confidential emissions data, in order to ensure that at least some can qualify.

8. Do you agree or disagree with the proposed GHG emissions methodology to assess the GHG savings for recycled carbon fuels? Please provide an explanation to why.

The RTFA welcomes the methodology proposed by the DfT as both logical and simple, but some of the figures are unrepresentative.

The assumption that incinerators meet the R1 standard is incorrect. There isn't any incentive or regulation in the UK that encourages incinerators to meet the R1 standard and no independent assessment of incinerator efficiency. In addition, the R1 standard assesses the gross efficiency of the incinerator and doesn't account for the power used with the incinerator. This means that the electricity exported from an incinerator will be less than implied by a 26% efficiency.

The latest accounts for the Lakeside Waste to Energy plant², a large modern incinerator, suggest a net efficiency of 21%. This is a more accurate of actual incinerator performance than the R1 figure. The RTFA suggests that a figure of 22% is used for E_e for refuse derived fuel feedstocks.

It should also be noted that the R1 efficiency is calculated using the lower heating value of the feedstock and this should be used in calculating E_{RCF} .

Waste gases produced at steel works or other industrial sites will normally be used to raise process heat. Therefore, it seems inappropriate to use a solid waste incinerator at the counterfactual. They will normally be replaced with fossil natural gas. Therefore, the calculation should be based on:

$E_{fe} = 85\%$ = efficiency in waste heat boiler used waste gases,
 $E_e = 220\text{kg/MWh}$ = emissions factor for natural gas.

In some cases waste gases may be used to generate electricity in high efficiency gas engines. These will have efficiencies of 35-40% when operating in a combined cycle.

In either case, assuming R1 efficiencies for waste gases will significantly underestimate the GHG impact of using them to make fuels.

The methodology assumes grid average for the counterfactual, but this is not appropriate; the question that should be asked is: if an RCF plant is built and therefore a future EfW plant is not built (because the waste is no longer in need of EfW disposal), what is the incremental power that will be added to the grid instead? We support the methodology recommended in "Future Fuels & Gasification

² <https://find-and-update.company-information.service.gov.uk/company/03861722/filing-history>

Groups thoughts on Life Cycle Strategies for Recycled Carbon Fuels 3 i.e. that “the approach for calculating displacement emissions should use the average carbon intensity of current additions to electricity generation.” This is likely to comprise a significant proportion of renewable or low carbon sources.

9. Do you agree or disagree with our proposal that RCFs from solid feedstocks are eligible for two x 0.25 dRTFCs per litre, and RCFs produced from gaseous feedstocks are eligible for two x 0.5 dRTFCs per litre?

Disagree. If RCFs are as sustainable as renewable fuel, why should they receive a lower reward? Also, given that development fuels are harder to produce, why should they be valued less than fuels that are easier to produce? This is counter intuitive, especially given that DfT is encouraging development fuels as being strategically important.

RCFs should be eligible for either RTFCs or dRTFCs depending on what type of fuel is being produced and not be reduced by ¼ or ½ (for solids and gases respectively).

The proposed quarter counting for solid RCFs does not provide sufficient incentive to process RCFs in gasification facilities. It will be economically preferable to process feedstocks with higher biomass content such as waste wood or refuse derived fuels with the contaminated and unrecyclable plastic removed and sent to incineration. Quarter counting will mean that the policy will not deliver the desired benefits.

The RTFO is already extremely complex and these proposals for RCFs add significantly to that burden as well as making the overall policy objectives less achievable.

10. RCFs from industrial waste gases have the benefit of avoiding release of the industrial gases to the atmosphere. Do you have evidence as to how it can be demonstrated that avoided GHG emissions have not been claimed elsewhere (e.g. under the Emission Trading Scheme), and that they have been attributed to the final fuel?

We are not sure what is meant by the first sentence in the above question.

The RTFA’s understanding is that the waste carbon that is used to create the RCF is taken out of the emissions inventory of the industrial plant and would reduce its obligation under a carbon trading scheme. If the fuel was then used in the aviation industry it would be subject to a carbon charge. If it was used in the road transport it would be free of any charge.

Regulated parties (such as a steel plant) must account for all GHG emissions from their process. To the extent gases are conveyed to another entity on-site or over the fence-line, those CO₂e molecules must be accounted for properly. They have reporting requirements following certain methodologies. There is robust reporting of the inputs (coal, coke, natural gas, oil, etc.) and the calculated emissions that result from the various processes (coking, sinter, BF, BOF, reheat furnaces, etc.).

³ <https://artfuelsforum.eu/outputs/26-05-2020-future-fuels-gasification-groups-thoughts-on-life-cycle-strategies-for-recycled-carbon-fuels/>

Hydrogen and renewable fuels of non-biological origin

The proposals around hydrogen are extremely complex, and the RTFA's members are not explicitly looking to the Association to influence the detailed evolution of how electrolysis-produced hydrogen is treated under the RTFO. However we would like to make some general observations for the record.

Electro-hydrogen is completely different from other types of development fuel, and the growth of its use in transport is highly sensitive to the manner in which input electricity is treated with respect to eligibility.

If the rules are very restrictive, then e-hydrogen becomes a niche offering, production is likely to be limited and the resulting hydrogen more expensive. On the other hand, if the rules are very pragmatic, production could grow quickly resulting in the usage infrastructure being the limiting factor. This might mean the d-fuels subtarget being met more quickly and the DfT having to increase it, unless it is to see investments in other d-fuels production challenged as the dRTFC value falls. Continually increasing the d-fuels sub target would be challenging in the longer term as the cost falls on a falling volume of motorists running their vehicles on conventional fuels, and is exacerbated by the addition of more sectors (aviation already, and potentially maritime if the Annex B proposals are included).

Neither of the above are desirable. The success of hydrogen as a transport fuel should be driven by its underlying energy and economics rather than the complexities of the policy design. The proposals in the consultation are intricately complex and there is much devil in the detail.

The RTFA does not have members involved in electrolytic hydrogen production, although renewable hydrogen is an important ingredient or production input for some members' fuels. This makes our task of uniting on answers to the questions relatively easy, as we are answering from the perspective of not undermining the efficacy of the d-fuels sub-target. It is already extremely difficult to finance a production facility based on the income stream from d-RTFCs and more pragmatic treatment of input electricity from hydrogen can only make the value of d-RTFCs more unstable and prone to falling.

Having said that, our answers are also consistent with our overall principles of evidence base and the objective of being fair and transparent.

11. Is "renewable energy that would not have been available to the grid in the absence of power demand from the RFNBO plant in question" an appropriate definition of additional renewable energy?

Yes, provided it can be evidenced.

12. Should the Administrator be able to take into account the use of power purchase agreements (PPAs) as evidence that suppliers have purchased additional renewable energy in order to allow the renewable power generation to be located in a separate location from the RFNBO production facility?

Yes, on the proviso that the carbon saving associated with the PPA is transferred to the RFNBO producer and “travels” with the finished RFNBO. Otherwise, the carbon savings may be counted by BEIS as reducing the overall carbon intensity of the grid as a whole and also under the RTFO leading to inadvertent double counting. We accept that the REGO approach outlined does not adequately demonstrate additionality.

13. A consequence of allowing the use of PPAs to demonstrate renewability, in combination with also permitting other suppliers to use a grid average renewability, is that the same renewable energy could be accounted for more than once. We consider this to be low risk when hydrogen energy and other RFNBO demand is small compared to the total renewable energy available on the grid. We are seeking views on whether this risk is acceptable. Is this risk acceptable?

No, as stated in the answer to 12 above the carbon saving should pass from the PPA provider to the RFNBO producer and in that way this issue will immediately be overcome.

14. Should appropriate adjustments be made to the amount of renewable energy supplied to a RFNBO production facility to account for transmission losses where renewable energy is transferred over the electricity grid?

Yes, in the same way losses are accounted for in the supply chain of other fuels and energy sources then the transmission losses of electricity should be accounted for in a RFNBO in order to ensure a level playing field.

15. Do you have any comments on the proposal to use a 30-minute time period for temporal correlation of renewable energy production and use, in cases where renewable energy has been purchased and transmitted across the grid?

16. Should the Administrator be able to permit fuel suppliers to use local grid GHG emissions factors in RFNBO GHG emission calculations? Circumstances in which this might be appropriate include where there are local grid constraints or other local conditions which mean that the local grid GHG intensity differs substantially from that of the national grid.

This is acceptable with the proviso as above that the GHG savings should not be accounted for elsewhere. This proposal should therefore be closely monitored and audited to ensure that the intentions of this proposal are actually delivered in practice.

17. A consequence of allowing local grid GHG emissions to be used in calculating the GHG intensity for a RFNBO is that GHG savings may be claimed by a production facility on a low GHG emission regional/local grid which have also been accounted for in the average national grid GHG intensity. Is this risk acceptable?

No, it should be incumbent on the RFNBO producer/supplier to provide validation of their claims and allow third party reviewing.

18. Have we captured all the additionality scenarios as set out in the proposals in the chapter and in the decision tree (Figure 13)? Please suggest alternatives with evidence

19. Do you agree or disagree that biohydrogen produced from biomethane reformation should be eligible for standard RTFCs rather than development fuel RTFCs?

Agree. The biomethane would have qualified for 1.9 RTFCs / Kg and 3.8 RTFCs if made from waste based feedstock. We assume the following RTFC allocation if this were converted into biohydrogen.

Hydrogen production method	Current	Proposal
SMR of Biomethane	9.16 dRTFCs/kg (as must be made from waste)	9.16 RTFCs/kg H ₂ if produced from waste based CH ₄ 4.58 RTFCs/kg H ₂ if not waste-based.
ATR of Biomethane	9.16 dRTFCs/kg (as must be made from waste)	9.16 RTFCs/kg H ₂ if produced from waste based CH ₄ 4.58 RTFCs/kg H ₂ if not waste-based.

20. Certain advanced production methods for biohydrogen are likely to be of strategic future importance and require new investments, such as addition of CCS. Do you agree or disagree that when these methods are used, biohydrogen produced from biomethane reformation should remain eligible for development fuel RTFCs?

Biohydrogen produced from biomethane in combination with CCS produces a fuel that can be used in high-efficiency fuel cell vehicles and it offers very high negative emissions from the capture of biogenic carbon dioxide. These kinds of fuels are essential to the UK meeting its net zero obligation and should be supported under the development renewable transport fuel obligation.

21. Hydrogen is likely to be an important power source for parts of the railway that are not possible to electrify. Do you agree or disagree that renewable fuel used in trains powered by fuel cells should be eligible for RTFCs?

Agree. It does not make sense to have hydrogen trains with an ICE eligible for the

RTFO, but those with a fuel cell not eligible. This goes against the principle of technology neutrality, and stems from the RTFO using the definition of NRMM taken from European legislation. This covers a wide category of machinery, much of which would not be associated with transport (e.g. electricity generators and garden equipment), but does not cover those things that one would expect the RTFO to encompass (e.g. fuel cell trains).

This would appear to be an opportunity for Government to closely examine which categories of NRMM it intends to qualify for the RTFO, as there are currently perverse incentives. For example, there is greater incentive to supply renewable fuels for portable power generation than there is for supplying it to transport. This is because 100% of the fuel duty is rebated for biofuel (e.g. HVO) used in such generators, whereas when used on the road full fuel duty is paid.

22. Hydrogen also has the potential to be an important power source for construction and other non-road vehicles. Do you agree or disagree that renewable fuel used in these vehicles powered by fuel cells should be eligible for RTFCs?

Yes, but with the proviso above.

23. Hydrogen supplied to retail customers is already eligible for RTFCs. Do you agree or disagree that the assessment time for hydrogen should be amended to make clear that fuel supplied to commercial customers can also qualify for RTFCs?

Agree. Also, hydrogen needs to pay fuel duty on an equivalent energy basis otherwise there will be perverse outcomes.

Changes to sustainability criteria

24. Do you agree or disagree that the default and disaggregated default values for calculating renewable fuel CI values under the RTFO should be updated in line with those published in the RED II Annexes?

Agree.

25. Do you agree or disagree with our proposal to remove the GHG emissions credit for cogeneration of electricity from the greenhouse gas saving methodology to prevent overstating the GHG emissions savings achieved by the finished fuel?

Agree.

26. Do you agree or disagree that biomethane suppliers should be able to apply a GHG emissions saving credit for avoided emissions when calculating the carbon intensity of biomethane produced from manure?

Agree.

27. Do you agree or disagree that when biomethane is created via the codigestion of multiple feedstocks, the supplier should continue to be required to report the CI of each individual consignment? That is, the supplier should not be permitted to average the CIs across feedstocks, in line with the mass balance rules which apply to other biofuels.

Agree.

28. Do you agree or disagree with our proposal to update the fossil fuel comparator from 83.8 gCO₂e/MJ to 94 gCO₂e/MJ to better reflect the real world GHG emissions associated with fossil fuels?

Agree.

29. Do you agree or disagree that we should update the minimum greenhouse gas saving thresholds to offset the impact of the revised fossil fuel comparator? This would prevent support for renewable fuels which have worse GHG emissions than those supported now.

We agree DfT should update the minimum GHG savings thresholds and with the levels proposed. This illustrates that renewable fuels have in the past been delivering greater savings than realized, and the sector is happy that the GHG thresholds are increased in order that the sector continues to deliver the level of savings currently being achieved.

30. Do you think we should consider introducing a tighter GHG emission savings threshold for fuels produced in new production facilities in the future? This would be in addition to the existing thresholds that we are proposing and would only apply to installations not yet built.

Fuels have a huge contribution to make to carbon emission reduction and this needs to be seen and in the context of a fair comparison with other complementary decarbonization options. However, we prefer the approach of a combination of the GHG savings obligation and RTFO, which worked well in that it placed a continual incentive to strive for greater GHG reductions. We would like to see the GHG regulations reinstated.

31. If yes - what do you think the minimum GHG emission savings threshold should be and what should the start date be? Do you agree or disagree that we should increase the RFNBO GHG threshold to 65%? Please provide supporting evidence.

32. Do you agree or disagree with our proposal to add 'highly biodiverse forest and other wooded land which is species rich and not degraded' to the list of restricted land categories? This will increase existing environmental protections and keep pace with international protections.

Agree.

33. Do you agree or disagree that we should continue to allow the production and harvesting of biofuel feedstocks from 'highly biodiverse forest and other wooded land' when it can be demonstrated that the production and harvesting of the feedstock from the land was completed without compromising the land type's nature protection purposes?

Agree.

34. Do you agree or disagree with our proposal to update the definition of highly biodiverse grasslands to maintain consistency with other land types, international definitions, and to facilitate the continued use of voluntary schemes?

A definition of highly biodiverse grasslands is needed imminently. Farmers, assurance bodies, merchants, and biofuel processors will already be making decisions about buying and selling grain ahead of the harvest this summer. The need for certainty about this definition is very urgent, and the sector requires a practical definition, acceptable to the sector, which can be used by assurance providers, and which ensures farmers growing crops for biofuels can continue to do so, and biofuel producers can have guaranteed access to homegrown crops.

35. Do you agree or disagree with our proposal to require that suppliers of biofuels produced from agricultural residues must demonstrate that monitoring and management plans are in place which address the impact of the removal and processing of the feedstock on the site's soil quality and soil carbon content?

Agree.

36. Do you agree or disagree with our proposal to introduce new sustainability criteria specifically for feedstocks sourced from forest biomass? Note that this would mean that biofuels from forestry feedstocks will no longer be required to meet the land criteria, but instead would be required to meet specific forest criteria.

Agree.

37. Do you agree or disagree that the proposed criteria better represent the specific environmental impacts associated with forestry?

Agree.

38. Do you agree or disagree that we should remove references to RED II Annex IX Part A from this definition?

Agree.

39. Are there any impacts that we have not foreseen? If yes, please explain your reasoning.

Civil penalties – minor amendment to provision on civil penalties

40. Do you agree that the specified amount used in determining civil penalty amounts related to the main obligation, should change to twice the buy-out price?

Yes. This would maintain the original principles of the civil penalty amounts.

Changes to ensure renewable fuels and chemical precursors do not receive multiple incentives

41. We propose that RTFCs should not be awarded if the renewable fuel or chemical precursor benefits from other support schemes such as feed-in tariffs and premium payments. Do you agree that we should further limit multiple reward of renewable energy and chemical precursors? Please provide reasoning and evidence for your answer.

We agree with the importance of avoiding double dipping with respect to financial support schemes for either fuels or precursors and with the proposal to deny RTFO support for fuels and precursors that have received support that benefits the end supply of fuel. This is a necessary update to take account of the UK's departure from the EU and the broadening of potential geographic sources of supply.

However, the wording in Table 8 is confusing. The first part of the table refers to "counting towards targets" and the text in the table under "proposed change" includes reference to a fuel or precursor not counting towards "any renewable energy obligation" around the world. The discussion in chapter 6 and the text of this question 41 implies that it must not have received production support. Mostly the two are linked, of course. A country may have some form of financial incentive scheme in place, in order to meet a target. However, it is conceivable that a fuel may have not received any financial incentive, but somehow still had its carbon savings linked to an emissions target or been counted towards a country's

aspiration for increasing renewable energy. For example a country could have a national target for renewable energy use, but not have any associated policy mechanism or support scheme for incentivizing the deployment of renewables. For the avoidance of doubt, we are assuming that the consultation is dealing with fuels and precursors that have had financial support from a national/government scheme for their production.

We are assuming that this policy change is not intended to impact on a renewable fuel production facility using its own renewable energy. For example, if a renewable fuel is produced in a facility which autogenerates some of its power or heat from a renewable source and it receives financial support for that energy (e.g. Renewable Obligation Certificates or the RHI) we are assuming the fuel it produces would still remain eligible for RTFCs. It would be illogical were this not to be the case, as the facility would then have to export its renewable power and heat, and buy in the energy it needs from other sources. It would also dissuade fuel producers from installing any renewable energy production measures in response to policies set up to encourage the installation of renewable power / heat generation capacity.

42. We have set out some circumstances where support in addition to that offered by the RTFO might be appropriate. These include if the production facility receives investment aid, including government grants or government loans. Should there be other exceptions when limiting multiple reward of renewable energy and chemical precursors? If yes, please list them and provide reasoning and evidence for your answer.

We agree that investment aid such as grants or government-backed loans (whether in the UK or elsewhere) to a plant producing fuel or precursors should not prevent the products from receiving RTFO support. Such aid is generally given by governments to support relatively immature technologies; any attempt to exclude it would be counterproductive as it would make it more difficult for the necessary supply chains to develop. It would also be difficult to assess whether such aid had been given, creating a burden for verifiers and a risk of penalising transparency and creating distortion.

43. Do you anticipate any unintended consequences with this change? Please provide reasoning and evidence for your answer.

We don't anticipate unintended consequences, but comment that given the RTFO's global scope it could be difficult for an assessor to know if precursor suppliers have had premium payments of any of the forms discussed in this section.

Response to re The Role of the RTFO in Domestic Maritime

We fully support the decarbonisation of maritime but it should have its own mechanism. We do not support the RTFO being extended to incorporate general maritime transportation in a manner which uses it as a proving ground for novel fuels such as hydrogen, ammonia and methanol, for the following reasons:

- The RTFO should not add additional demand without proportionately increasing the targets, as this dilutes the ability of the RTFO to decarbonize road transport.
- It places the costs on motorists, and this is against the polluter pays principle. Furthermore if the development fuels target were to be met then the sub target would have to be increased in order that the value of dRTFCs does not fall, thereby increasing the costs which fall on a diminishing pool of motorists. We accept that this may be a risk that will not manifest itself for some time, but why build it in if it can be avoided by implementing a targeted maritime fuel obligation rather than tacked on to the RTFO?
- Any effective marine decarbonisation mechanism should incorporate biofuels and recycled carbon fuels.

To expand on the second bullet point above, it is acknowledged that it is not sustainable to expect the motorist to pay for aviation d-fuels in the medium to long run, and a separate aviation mandate has been suggested. Once this mandate is in place there will inevitably be challenges in dealing with the interaction of the RTFO and the aviation mandate or managing the transition to supporting these fuels under the new mandate instead of the RTFO. Recreating the same scenario with shipping makes no sense.

Even if the above concerns were addressed, i.e. the change was accompanied by a commensurate increase in a sectoral blending target and maritime operators became obligated, then it would probably be safer to replicate the RTFO for the maritime sector than expand the present RTFO to incorporate it.

The only additional maritime application that the RTFA might consider reasonable to incorporate in the RTFO could be inland water ferry services. This would need consultation, however.

Annex A - the role of the RTFO in domestic maritime

Chapter 1: The role of biofuels in shipping

Q 1 Do you agree with the Governments current position not to support biofuels for use in maritime transport under the RTFO and instead promote the use of bioenergy in other sectors of the economy that have fewer decarbonisation options compared to maritime?

We disagree with the proposal to include maritime in the RTFO in the manner proposed, for the reasons set out above. We anticipate that sustainable biofuels will progressively transition into maritime and aviation with the electrification of land transport, and this is to be welcomed. As per our comments above, there should be a separate policy for decarbonising maritime, incorporating biofuels and RCFs as well as RFNBOs.

Q 2 Do you consider that there could be biofuel options that would be suitable for use in maritime transport under the RTFO, including sub-sectors like fishing, that address concerns about feedstock availability? When replying please provide any additional evidence you feel is useful in explaining your response.

As noted above, we disagree with the entire proposal. As an observation there would be several layers of additional complexity involved in implementing this additional suggestion.

Chapter 2: Support for renewable fuels of non-biological origin used in shipping

The answer to the remaining questions are all disagree, on the basis of the fundamental objections listed above.

We also want to point out that we disagree on principle with the requirement for more detailed 'reasonable' assurance level provided for under ISAE 3000 for fuel volumes, rather than the 'limited' level which is used for renewable fuel sustainability information. Although it is not proposed, we would not want this to be imposed elsewhere in the RTFO, as it would add considerably (and unnecessarily) to the cost of verification of feedstocks and fuels.

Annex B – Cost Benefit Analysis

1. Do you think that the marginal fuel is still FAME UCOME biodiesel? Please give reasoning and evidence for your answer.

Yes. We agree with the reasoning set out in the document.

2. Do you agree that the assumptions made within our modelling are reasonable? Please give reasoning for your answer.

No.



We disagree with using the Energy Emissions Projections that don't fully reflect Government policy on electrification and the aspect of the modelling that attempts to address that shortcoming seems unlikely to fully reflect it.

It is also important to put the cost of decarbonizing transport through addressing fuels under the RTFO, with the cost of decarbonization through electrification.

As suggested in our response to the main consultation, we suggest holding back on future target increases that attempt to address the impact of electrification, until a proper assessment is done.