

Title: Amendments to the Renewable Transport Fuel Obligation for compliance with the Renewable Energy Directive - (4) Partially Renewable Fuels Lead department or agency: Department for Transport (DfT) Other departments or agencies:	Impact Assessment (IA)
	IA No: DFT00055
	Date: 03/08/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
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Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

Greenhouse gas (GHG) emissions from transport are significant and impose costs on others through their contribution to climate change; those costs are not taken into account by those that emit them. Using renewable energy can reduce GHG emissions and there are therefore EU and UK renewable energy targets. However, these are not likely to be met by the market alone, because of the extra cost of renewable energy compared to fossil fuels in the near term at least. The UK intends to meet its Renewable Energy Directive (RED) target through the Renewable Transport Fuel Obligation (RTFO). The RED enables Member States to take into account the renewable energy from a number of partially renewable fuels which are not currently eligible under the RTFO.

What are the policy objectives and the intended effects?

The policy aims to increase the use of renewable energy in the transport sector, in a cost effective way. The amendment to the Renewable Transport Fuels Obligation (RTFO) considered in this Impact Assessment aims to allow partially renewable fuels to count towards the RTFO biofuel targets. This will increase the possibilities for fuel suppliers to meet their RTFO (supply of biofuels) targets, enabling a wider set of sustainable biofuels to deliver GHG savings. We do not intend to implement this directive beyond the minimum requirements.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The RTFO already exists to impose an obligation on fuel suppliers. This IA considers allowing partially renewable fuels to count towards the RTFO biofuel targets in order to increase the options for meeting those obligations. Suppliers are left to choose whether they wish to supply those fuels. The policy options considered are a) to leave unchanged the current specified list of renewable fuels eligible for award of renewable transport fuel certificates (RTFCs) and b) to allow the renewable element of partially renewable fuels to be eligible for RTFCs. This impact assessment identifies the preferred option as allowing partially renewable fuels to count towards the RTFO biofuel targets, as it would be expected to:

- Widen the options available to obligated suppliers to meet their RTFO targets in the most cost-effective manner; it would serve only to potentially allow lower costs of meeting obligations, and not increase them.
- Provide an additional option to the UK to overcome biofuel blending limits in the current vehicle fleet.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 4/2014

What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year

Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes
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Ministerial Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister:

Norman Baker

Date: 19 October 2011

Summary: Analysis and Evidence

Policy Option 1

Description:

Allow partially renewable fuels to count towards the RTFO biofuel targets

Price Base Year 2010	PV Base Year 2011	Time Period Years 18	Net Benefit (Present Value (PV)) (£m)		
			Low: NA	High: NA	Best Estimate: NA

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Not available	0	Not available
High	Not available	0	Not available
Best Estimate	Not available	0	Not available

Description and scale of key monetised costs by 'main affected groups'

NA

Other key non-monetised costs by 'main affected groups'

No net costs are expected to business or consumers because the policy option allows additional flexibility to potentially lower the costs of meeting RTFO obligations. Reductions in net costs have not been possible to monetise owing to the lack of evidence on how partially renewable fuel would be used and what the per-unit cost saving would be. There may be additional one-off administrative costs to the RTFO administrator if novel fuels are supplied.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Not available	0	Not available
High	Not available	0	Not available
Best Estimate	Not available	0	Not available

Description and scale of key monetised benefits by 'main affected groups'

N/A

Other key non-monetised benefits by 'main affected groups'

There could be greater GHG savings from the RTFO if partially renewable fuels are used towards the obligation. The GHG savings vary across types of partially renewable fuels. There could be wider benefits of tackling the 'blend wall'.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

The potential costs and/or benefits of allowing partially renewable fuels to count towards RTFO targets are inherently uncertain because it is not possible to form a robust estimate of what proportion of the UK biofuel supply such fuels might eventually contribute and which type of partially renewable fuels these will be.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: NA	Benefits: NA	Net: NA	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			15/12/2011		
Which organisation(s) will enforce the policy?			DfT		
What is the annual change in enforcement cost (£m)?			£0m		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: 0	Non-traded: 0	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			Costs: NA	Benefits: NA	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	Micro	< 20	Small	Medium	Large
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on...?	Impact	Page ref within IA
Statutory equality duties¹ Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	10
Small firms Small Firms Impact Test guidance	Yes	11
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	8
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

¹ Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	The Renewable Transport Fuel Obligations Order http://www.legislation.gov.uk/ukxi/2007/3072/contents/made
2	Committee on Climate Change website – transport sector: http://www.theccc.org.uk/sectors/surface-transport
3	Climate Change Act 2008: http://www.legislation.gov.uk/ukpga/2008/27/contents
4	EU Renewable Energy Directive – Promotion of the use of energy from renewable sources: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:en:PDF

+ Add another row

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y ₀	Y ₁	Y ₂	Y ₃	Y ₄	Y ₅	Y ₆	Y ₇	Y ₈	Y ₉
Transition costs										
Annual recurring cost										
Total annual costs										
Transition benefits										
Annual recurring benefits										
Total annual benefits										

* For non-monetised benefits please see summary pages and main evidence base section



Microsoft Office
Excel Worksheet

Evidence Base (for summary sheets)

Introduction

1. Transposition of the EU Renewable Energy Directive (RED) into UK law means that changes are required to the current biofuels obligations in order for the UK to be compliant. These are being consulted on and are described in full in the accompanying consultation document.
2. This Impact Assessment is one of five final stage impact assessments covering transposition of transport elements of the RED. It focuses on one particular aspect of the RTFO: the accounting of partially renewable fuels.
3. The suite of 5 final stage impact assessments is:
 - i) Mandatory Sustainability Criteria
 - ii) Reporting & Verification
 - iii) Double-Counting of Waste-Derived Biofuels
 - iv) Partially Renewable Fuels
 - v) Overarching Impacts
4. This impact assessment examines the costs and benefits of allowing the renewable element of partially renewable fuels to count towards meeting RTFO targets. Under the current RTFO only a specified list of renewable fuels is eligible for award of Renewable Transport Fuel Certificates (RTFCs) and thus only fuels in this list are eligible to be counted towards meeting an obligated supplier's target. The RED allows virtually all renewable fuels to be eligible for reward under national schemes and to be counted towards meeting the relevant RED targets. The RED also allows the renewable portions of partially renewable fuels to be similarly rewarded and counted towards targets.
5. The structure of this IA is as follows: it will set out the problem under consideration and the rationale for government intervention, before then explicitly stating the policy objectives of this intervention. The policy option is described and the methodology for analysing the costs and benefits of the policy option is explained, including the key assumptions and areas of uncertainty. Wider impacts and relevant specific impact tests are described in the annex. The impact assessment concludes by describing the preferred option.

Problem under consideration

6. Transport accounts for around a quarter of UK greenhouse gas emissions (around 130 MtCO₂e¹) and the majority (around 90%) of those emissions come from road transport (Committee on Climate Change, 2010). The UK has legally binding climate change targets both for the long term to reduce emissions by at least 80% below 1990 levels by 2050; and, in the short term to reduce emissions by 34% below 1990 levels by 2020 (Climate Change Act, 2008). We also have a renewable energy target which is for 15% of UK energy to be supplied from renewable sources by 2020, with a transport-specific target of 10% (RED).
7. Sustainable biofuels are currently one of the main available options for increasing renewable energy usage in transport, particularly in the period up to 2020 when other options are limited due to the lead in times for technological developments.
8. It is possible to combine renewable bio-chemicals with crude oil derived fossil fuel at the molecular level to produce partially renewable fuels. Examples include Co-processed hydrotreated vegetable oil (co-processed HVO), bio-ethyl-tertiary-butyl-ether (bio-ETBE), bio-methyl-tertiary-butyl-ether (bio-MTBE) and bio-tertiary-amyl-ethyl-ether (bio-TAEE). Partially renewable biofuels can be made from the same feedstocks as other biofuels. The bio-chemicals are chemically combined with the fossil fuel to form a uniform type of fuel rather than blending biofuel with fossil fuel for use. This means that partially renewable biofuels can offer greater compatibility with existing technologies (e.g. engine seals) and fewer supply issues than other biofuels. Partially renewable fuels are not currently eligible to be counted towards the RTFO (i.e. suppliers do not receive RTFCs when they supply renewable energy in this form) and therefore there is no current incentive for their supply.

Rationale for intervention

9. Inclusion of partially renewable fuels in the RTFO will give fuel suppliers increased flexibility to supply renewable transport fuel at least cost. A number of industry stakeholders have indicated that they would like the list of renewable fuels eligible for RTFCs to be 'left open' in order to reward any others that they supply. It is therefore believed that increasing this list could be an effective policy. However, this list is set out in the RTFO Order and therefore government must intervene to amend this list.

Policy objective

10. The objective of this policy change is to provide an incentive for the supply of partially renewable fuels, with the intended effect that it would allow a level playing field in the supply of biofuels across a wider range of potential renewable fuels.

¹ The CO₂e metric stands for CO₂ equivalent and captures other GHG in relative terms to CO₂.

Description of options considered (including do nothing)

11. Given the RTFO is already in place, there is an option to make an amendment to ensure that it allows the widest possible set of biofuels to deliver GHG savings. The costs, benefits and impacts on the market of this option will be explored in this section.
12. The policy option considered in this impact assessment is assessed against a 'do nothing' baseline.

Baseline

13. A "do nothing" baseline assumes no changes to the current RTFO, i.e., the renewable energy from partially renewable fuels would continue to be ineligible for RTFO certificates (RTFCs) and would not be counted towards meeting RTFO targets.
14. There are no additional policy costs or benefits associated with a 'do nothing' baseline. Any potential for partially renewable fuels to deliver increased GHG savings and efficiency savings would be unrealised.

Costs and benefits of each option

15. The policy option considered is to allow the renewable element of partially renewable fuels to be eligible for RTFCs and thus to count towards the RTFO obligation.

Costs

16. Suppliers are assumed to minimise costs and maximise profits. As suppliers will still be able to make the same supply decisions, with regard to the eligibility of wholly renewable fuels, it is assumed that costs will not rise (i.e. suppliers could continue to supply wholly renewable fuels with no additional costs above practices taking place under the current RTFO, the baseline) and could potentially fall if partially renewable fuels become eligible for RTFCs under the RTFO. This fall in costs would be expected because allowing a wider range of renewable fuels to be used to meet a given target would lead to suppliers having more options to meet targets and, depending on the cost, commercial considerations will determine the uptake of the partially renewable fuels. This potential cost saving has not been quantified as it is not possible to make a robust estimate of how partially renewable fuel would be used if it were allowed or what the per-unit cost saving would be. Given that the renewable part of any currently commercially available partially renewable fuels are derived from identical feedstocks to conventional biofuels, it is not thought that any potential cost savings would be large. Lower costs for biofuel suppliers may be passed on to consumers through lower pump prices relative to in the baseline. Increased supply of partially renewable fuels would be offset by a decrease in the supply of wholly renewable fuels, with no net change in the overall volume of biofuel supplied.

Benefits

17. Partially renewable fuels may have different GHG savings characteristics relative to wholly renewable fuels, therefore overall GHG savings delivered under the RTFO may change as a result of the inclusion of partially renewable fuels. However, it is not expected that any change in overall GHG savings will be significant.
18. The Renewable Energy Directive (annex V) lists estimates of 'typical' GHG savings from a number of wholly renewable and partially renewable biofuels. Of the partially renewable fuels covered bio-ETBE and bio-TAEE are estimated to have the same GHG impacts as bioethanol (a wholly renewable fuel) from the same production pathway and co-processed HVO biodiesel (partially renewable) is estimated to deliver higher GHG savings (by around 8% to 14% depending on the feedstock) than FAME biodiesel (wholly renewable) produced using the same feedstock (see figure 1).

Figure 1: partially vs wholly renewable biodiesel GHG savings (RED annex V)

	FAME	HVO
Rape	45%	51%
Sunflower	58%	65%
Palm	36%	40%

19. The extent to which overall GHG savings will change following the implementation inclusion of partially renewable fuels in the RTFO will depend upon (1) the volume of partially renewable fuels supplied (2) the type of partially renewable fuel supplied (3) the type of wholly renewable fuel displaced. At this stage, it is not possible to make a robust estimate of these changes, however, given the relative similarity in GHG savings delivered by partially and wholly renewable fuels it is thought there is very little risk of partially renewable fuels delivering significantly lower GHG savings than the fuels they displace.

Market Impacts

20. Inclusion of partially renewable fuels in the RTFO will give suppliers the opportunity to meet their obligation through the supply of partially renewable fuels. If they choose to do so, this will mean that less biodiesel/bioethanol will be supplied to meet a given obligation level (as the biodiesel/bioethanol will have been substituted for a partially renewable fuel).
21. Inclusion of partially renewable fuels may also provide alternative biofuel supply options to suppliers who wish to supply fuel in excess of the 'blend wall' (the mandatory bioethanol/petrol, biodiesel/diesel blending limit). This may mean that greater quantities of renewable transport fuel can be supplied before dedicated 'high blend' biodiesel/bioethanol fuel streams become necessary.
22. Inclusion of partially renewable fuels is not expected to have an adverse impact on the quality of fuel supplied, as fuel supplied will still have to meet specified standards.

Administrative burden

23. Additional admin costs (for the RTFO administrator and fuel suppliers) may be incurred where a partially renewable fuel which isn't listed in Annex III (of the RED) and doesn't have a readily available industry standard value (for GHG savings) is supplied. Due to the uncertain nature of these costs they haven't been estimated - they will only be incurred if a supplier wished to supply a novel type of fuel and would only be incurred once for each type of fuel. In addition, we would not expect a supplier to change behaviour and supply a partially renewable fuel unless the net benefit was profitable (i.e. the potential cost saving by supplying a partially renewable fuel would have to outweigh any increased administrative burden in order for a supplier to make a sensible commercial decision to supply).

Wider Impacts

24. As some partially renewable fuels can be blended at higher concentrations than conventional biofuel, they may offer a low-cost route for overcoming the "blend wall" (the limit at which conventional biofuel can be blended with fossil fuel as dictated by engine design in the current car fleet and regulations that limit the amount of biofuel that can be blended with fossil fuel). This potential benefit cannot be quantified because it is not possible to make a robust estimate of how much partially renewable biofuel would be used if it were eligible under the RTFO. The cost and practicality of alternative solutions to the blend wall is also currently subject to research and there are not yet any robust estimates of competitor solutions.

Summary and preferred option

25. Making partially renewable fuels eligible under the RTFO will allow obligated suppliers increased flexibility to meet their obligations, potentially leading to cost savings and not increasing costs if suppliers are profit maximising. The additional flexibility in meeting obligations is likely to work to the benefit of fuel suppliers and to consumers, if the costs of meeting obligations were lower, hence lowering the pump price increase associated with the supply of biofuels. Partially renewable fuel typically delivers higher GHG savings than the wholly renewable alternative. Allowing the use of partially renewable fuel would therefore be likely to increase overall GHG savings and assist obligated suppliers in complying with minimum EU GHG savings requirements. However, it is possible some partially renewable fuels could reduce GHG savings as compared to the fuels they displace. There may be some extra administrative costs to the RTFO administrator if novel partially renewable fuels are supplied.
26. Therefore, although it has not been possible to quantify the costs and benefits, this Impact Assessment suggests that there may be net benefits from Option 1 given the potential for cost savings (due to increased flexibility for obligated suppliers), and therefore identifies the preferred option as allowing partially renewable fuels to be counted towards the RTFO.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

<p>Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review, or there could be a political commitment to review (PIR)]; A review of all the RTFO amendments proposed in this consultation exercise will be conducted in advance of April 2014.</p>
<p>Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?] The objective of the review will be to ensure that the RTFO amendments are performing as intended.</p>
<p>Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach] The review will consist of an analysis of the impact of the RTFO amendments and will draw upon collected market data and stakeholder views.</p>
<p>Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured] Detailed data on the RTFO which is gathered by the RTFO Unit at DfT will be used to form the baseline.</p>
<p>Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives] Success will be determined by the effective allowance for inclusion of partially renewable fuels in the RTFO.</p>
<p>Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection of monitoring information for future policy review] The RTFO administrator collects detailed data on RTFO performance.</p>
<p>Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]</p>

Annex 2 – Competition Assessment

27. The widening of the RTFO to ensure that partially renewable fuels are eligible increases the options open to fuel suppliers in meeting their obligations, therefore increasing the extent to which there is competition among the types of fuels supplied. This should act to lower the overall costs of meeting obligations.

28. As no additional obligations are being placed on fuel suppliers, no adverse competition effects are expected. Allowing a larger range of fuels to be eligible for RTFCs may provide the additional incentive for them to be supplied, if they were cost competitive for the supplier, hence increase the number of fuel types in the market. This may increase the competition between fuels to some degree, though this effect is not likely to be significant.
29. Allowing more fuels to be eligible for RTFCs may also provide the incentive for new fuel suppliers to enter the market if they are able to benefit from this opportunity to provide fuels which now have a higher market value (because they now are worth the value of an RTFC).

Annex 3 – Small Firms Assessment

30. The Renewable Transport Fuel Obligations Order exempts small transport fuel suppliers (supplying less than 450,000 litres/year). From having to supply biofuel under the RTFO.
31. Small firms may benefit if they supply partially renewable fuels, because their value to fuel suppliers will increase (equivalent to the RTFC value). This means there may be new market opportunities for certain fuel suppliers.

Annex 4– OIOO

32. This measure is from a European origin and therefore it does not fall within the scope of OIOO.