Consultation on the Draft Renewable Transport Fuel Obligations (Amendment) Order 2009

Response to selected questions provided by Ensus

December 2008

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EXECUTIVE SUMMARY

The Gallagher review provided a timely response to elevated public concerns about the effects of UK & EU biofuel policies on global food prices, GHG savings and sustainable land use. These concerns, expressed with increasing force during the first half of 2008, developed in an environment of rising food prices, initiation of the UK's RTFO obligations, and publication of several scientific papers that highlighted the importance of land use change implications for carbon and sustainability evaluation of biofuels.

Ensus supports the view expressed in the Gallagher review that sustainable biofuels have an important role to play in addressing the challenge of climate change, and that it should be possible to establish a genuinely sustainable industry provided that robust, comprehensive and mandatory sustainability standards are developed and implemented.

The scientific nature and discipline of this review has influenced the debate on biofuel sustainability beyond the UK. Since the publication of the Gallagher review in July 2008, a new European framework to promote sustainable biofuels has been agreed within the EU's Renewable Energy Directive, which includes clear sustainability targets and a commitment to address indirect land use change rigorously.

Since July, a number of other changes have substantially altered the balance of evidence upon which the conclusions of the Gallagher review were based:

- The RFA has demonstrated, through the performance of C&S reporting within the RTFO, that it is now possible to measure and hold suppliers to account for the sustainability, origin and GHG performance of biofuels supplied to the UK market.
- Much new evidence and market data has become available including falling food prices on the back of record global agricultural production of grains.
- The world's economic outlook has worsened and the UK investment climate has deteriorated rapidly.

The UK must maintain its leading position on sustainability matters if it is to continue to influence the evolution of Europe's biofuel industry. The Climate Change Committee has underlined the importance of demonstrating leadership and sustaining momentum in all our endeavours to move rapidly to a low carbon economy, and the importance of the contribution of road transport:

> *"Climate change resulting from CO_2 and other greenhouse gas emissions poses a huge threat to human welfare. To contain that threat, the world needs to cut emissions by about 50% by 2050, and to start cutting emissions now. A global agreement to take action is vital. But a global agreement will not be possible unless the countries of the rich, developed world provide leadership.*
>
> *Transport emissions cuts through introduction of new technologies will be required, and biofuels have a potentially important role."*
>
> **Climate Change Committee – Dec 2008**

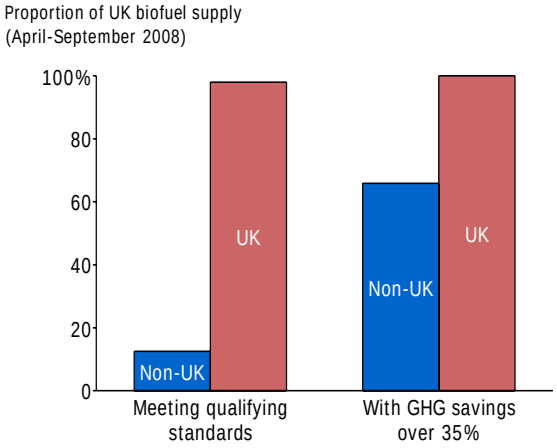
In the light of these new facts, the right evidence-based policy position is now to move forward on the original trajectory. The risks of not doing this, in terms of incentives for investment and stability in the policy framework, have increased significantly in the months since this consultation was published.

Part 1 – Future levels under the RTFO

Professor Gallagher recommended that the RTFO trajectory be slowed, and proposed revised targets that were intended to strike a balance between the need to address sustainability risks, and the need to promote investment in a sustainable biofuel industry. This recommendation was implicitly based on the following three assertions, which have subsequently been cast into doubt:

1. Rising biofuels production in Europe and globally has contributed significantly to recent food price increases
2. Sustainability risks cannot yet be adequately addressed through sustainability reporting and criteria, within the existing RTFO target trajectory
3. Slowing targets would reduce sustainability risks associated with the indirect effects of biofuels yet permit the necessary level of investment in new capacity and infrastructure for a genuinely sustainable biofuel industry.

Significant falls in food commodity prices since July make it clear that rising biofuels production did not contribute significantly to recent food price increases. In addition, evidence provided to the Gallagher review, together with initial results of the RTFO's carbon and sustainability reporting demonstrate that UK-supplied biofuels currently offer better greenhouse gas savings and meet a higher proportion of the environmental and/or social criteria (as defined under the RTFO) than other sources of biofuel.



Now that the RTFO's C&S reporting scheme is proven, and EU agreement has been reached on RED requirements for biofuel GHG targets, sustainability criteria and the avoidance of ILUC, the RTFO should move forwards to provide the basis for renewed UK investment in 'Good biofuels' – those that meet the defined sustainability and GHG savings targets.

A target slowdown will adversely affect UK investment in such 'Good biofuels' - both in the short term due to lower target levels, and in the longer term due to the perception of policy risk in this area. If a target slowdown were implemented, Ensus may not be able to secure future investment to expand its UK capacity after 2009 despite the GHG and sustainability benefits of its biofuel, and Ensus' bioethanol may even be exported from an oversupplied UK market.

Furthermore, a target slowdown would give the UK one of the lowest biofuel targets in the EU in 2010, (second only to Malta as shown in Appendix 1), undermining the UK's ability to inform and lead on sustainability issues in EU and globally.

Yet the drafting error in the current RTFO has technically halved this year's obligation and will have knock-on effects for obligation levels in 2009-10.

The Government should therefore maintain the original RTFO target trajectory and continue to demonstrate leadership in development of robust sustainability evaluation and reporting, and should act decisively to correct the drafting error.

We recognise that simple, workable and scientifically robust methods are a necessary for biofuel providers to evaluate and demonstrate their GHG savings and sustainability performance, so that differential support for 'good biofuels' becomes possible. **We agree that mandatory sustainability criteria benefit bioethanol and biodiesel producers in the UK.** The initial performance of the RTFO C&S reporting scheme demonstrates that such methods are now available, and will continue to improve as they are developed.

We do not agree with the costs as set out in the Impact Assessment. The cost assessment neglects a number of major costs of a target slowdown, and consequently underestimates the true cost of both alternative options to the current RTFO.

Part 2 – Longer term issues related to transposition of the EU directives

Since the publication of the Gallagher review, EU agreement has been reached on many aspects of the proposed RED, including the need for measures to address indirect land use change. The clarity and binding nature of this agreement lays the foundations for transport energy investments across Europe over the next decade, and sustainable biofuels are expected to make a major contribution to the 2020 target. Ensus supports the development of a European biofuels industry based on genuinely sustainable GHG savings, underpinned by scientifically based objective measurement and monitoring schemes.

We agree that a modified RTFO scheme should be the principal mechanism to deliver sustainable biofuels in the UK. Through the RTFO, the UK now has:

- The world's first running system demonstrating the possibility of monitoring sustainability & GHG savings in the transport fuel sector
- Sector players and supply chains are responding positively to that challenge
- Rapidly increasing global awareness and interest in the UK scheme

The underpinning technology and methodology for monitoring environmental performance is a fast developing area, and very substantial progress has now been made. In some cases it is clearly possible now to distinguish between good and bad biofuels. For example, it is now clear that wheat refining did not play a significant part in the recent wheat price spike, and there is an increasing body of evidence pointing to strong positive LUC effects, giving a very low cost of GHG savings.

With regard to second generation biofuels, **Ensus supports double rewards incentives for using other feed materials as long as it is in a level technology playing field, with technology- and feedstock-neutral support measures in the form of GHG incentives** that fully account for ILUC effects and recognise the contribution to other sectors through co-products.

DETAILED RESPONSES TO SELECTED QUESTIONS

Question 1. Do you agree or disagree that if the obligation levels were left unchanged at 3.75 per cent for 2009/10 this would only have a marginal impact on the amounts of bioethanol used by obligated suppliers to meet their obligation in that period?

Ensus disagrees.

The original RTFO target of 3.75% in 2009-10, rising to 5% in 2010-11 will result in significant oil company investment in infrastructure for bioethanol storage and blending, and in reformulation of refinery output to allow ethanol blending.

Leaving the 2009-10 obligation levels unchanged will therefore result in a disproportionate rise in bioethanol blending and use by obligated parties in the UK.

Question 2. Do you agree or disagree that the obligation levels should be left unchanged?

Ensus agrees that the obligation levels should be left unchanged.

The success of the RFA's C&S reporting mechanism, falling food prices, and the financial market turmoil and broad economic slowdown now mean there is now a strong case to proceed with the original RTFO trajectory as detailed in our response to question 4.

The UK's ability to meet GHG targets to 2020 and beyond depends on the ability of Government to make credible policy commitments, giving the industry the confidence to invest. The Government should now take the opportunity to reaffirm its support for the existing RTFO target trajectory.

In doing so, it will signal to potential investors in the UK biofuel industry that declared targets will be adhered to unless there is new and overwhelming evidence that these targets are not delivering the intended result: sustainable, least-cost GHG savings.

Question 3. Do you agree or disagree with freezing the obligation level at 2.5 per cent?

Ensus disagrees – see our response to questions 2 & 4.

Question 4. Do you agree or disagree that the rate of increase in the RTFO should be adjusted in line with Professor Gallagher's recommendations?

Ensus disagrees.

Professor Gallagher recommended that the RTFO trajectory be slowed, and proposed revised targets that were intended to strike a balance between the need to address sustainability risks, and the need to promote investment in a sustainable biofuel industry. This recommendation was implicitly based on the following three assertions:

1. Rising biofuels production in Europe and globally has contributed significantly to recent food price increases
2. Sustainability risks cannot yet be adequately addressed through sustainability reporting and criteria, within the existing RTFO target trajectory
3. Slowing targets would reduce sustainability risks associated with the indirect effects of biofuels yet permit the necessary level of investment in new capacity and infrastructure for a genuinely sustainable biofuel industry.

Significant events and new market data that have become available since evidence was collected by the Gallagher review in April 2008 cast doubt on these assertions and remove the basis for a target slowdown:

1. **Rising biofuels production did not contribute significantly to recent food price increases.** The present grain market situation adequately demonstrates this, and shows that the understandable concerns expressed by the food industry, the World Bank, parts of the FAO/OECD, and many NGO's were unwarranted. The dramatic increase in global grain output in 2008 is indicative of the potential of global agriculture to respond to price signals over a 2-3 year time period, a point made by Ensus in our submission to the RFA in April, and copied in Appendix 2.

2. **The exemplary performance of RTFO C&S reporting,** and the very positive global image established by the RFA implementation of the RTFO. The RFA has demonstrated a practical reporting solution that, with the inclusion of indirect land use change factors, could differentiate between 'Good' and 'Bad' biofuels, and that also demonstrates the willingness and ability of companies and supply chains to fully comply.

3. **A rapidly deteriorating investment climate**. Since the start of 2008, the credit crunch and global financial market turmoil has contributed to a series of cancellations of biofuel projects in the UK. A list of capacity cancellations and delays in UK bioethanol industry is included in Appendix 3.

4. **Ongoing risk of 'Bad biofuels' supply into the UK.** Evidence provided by Ensus to the Gallagher review shows that is it relatively easy to identify biofuels whose feedstock production is most likely to contribute to tropical deforestation and other adverse ILUC effects. The latest RFA report on the carbon and sustainability of UK biofuels demonstrates that over 40% of the UK biofuel supply is still from biofuel crops with adverse ILUC effects. The proposed slowdown in biofuel targets does nothing to restrict the supply of these biofuels.

On the contrary, a target slowdown may well prolong the UK's use of biofuels with adverse ILUC effects if investment in new UK capacity and infrastructure stalls, and reverse the share growth of biofuels with positive ILUC in the UK market. In this way, a target slowdown could actually increase overall sustainability risks.

The slow development of domestic bioethanol capacity in the UK is in stark contrast to France and Germany, which also run large exportable surpluses of cereal crops, and whose bioethanol capacity in operation at the end of 2008 exceeds all current and planned bioethanol production in the UK, as shown in Appendix 4.

A target slowdown will adversely affect future investment in 'Good biofuels' in the UK both in the short term due to lower target levels, and in the longer term due to the perception of policy risk in this area. 'Good biofuels' production and blending capacity have high investment requirements and long lead-time for capacity build, so target slowdown will structurally impair UK's ability to meet GHG targets to 2020 and beyond.

Furthermore, a target slowdown would put UK in bottom tier of EU biofuel target trajectories and undermine UK's ability to inform and lead on sustainability issues in EU.

The Government therefore should maintain original RTFO target trajectory and continue to demonstrate leadership in development of robust sustainability evaluation and reporting

Question 5. Do you agree or disagree that agreed mandatory sustainability criteria would benefit both bioethanol and biodiesel producers in the UK?

Ensus agrees

It is now possible to make sufficient distinction between the most extreme 'good' and 'bad biofuels', and methodologies that differentiate these extremes and exclude 'bad biofuels' (also taking ILUC into account) can be implemented in a timescale consistent with the originally proposed RTFO trajectory.

By excluding 'bad biofuels' where the evidence is clear, the more sustainable UK biofuel industry will be able to take a greater share of RTFO targets, whilst restoring public confidence in its previously tarnished reputation.

In contrast, the Gallagher recommendation of a proposed slow-down, if implemented, would make the UK industry increasingly irrelevant to the global biofuel markets and reverse the significant international credibility the UK has achieved with the RFA reporting progress.

The rest of the world continues to rapidly expand its use of biofuels, and produces more ethanol each day than the RTFO will use in the whole of 2008. It is clear that the main way in which the UK can influence the sustainability of the global biofuel industry is to continue to lead the development and deployment of a simple and effective sustainability methodology and reporting system.

Question 6. Do you agree with the costs as set out in the Impact Assessment?

Ensus disagrees

Since one of the Gallagher review's main arguments for a target slowdown is to reduce the chances of adverse GHG emissions from indirect land use change, the impact assessment must seek to show that indirect effect benefits of a target slowdown outweigh the costs. However the impact assessment explicitly excludes the indirect effects. The cost assessment also neglects a number of other negative impacts of a target slowdown, and consequently underestimates the true cost of both alternative options to the current RTFO. Omissions include:

1. Costs and benefits of indirect GHG emissions from land use change caused or avoided are not accounted for. A target slowdown has potential give a differential impact on consumption of different biofuels (For example by causing the deferral of UK capacity investments) and could therefore result in lower average GHG savings in the case of a target slowdown.

2. The higher octane rating of bioethanol (vs. petrol) offsets a proportion of this fuel's energy penalty, and which for E5 results in volumetric fuel consumption of blended fuel that is lower than is given by the energy penalty calculation used.

3. The beneficial impact of animal feed co-products on food security and food prices in the UK is not accounted for.

4. The impact assessments do not account for the loss of the option to accelerate RTFO targets in the period 2010-14, which could make it more difficult for the UK to respond to an enhanced EU GHG savings target in 2020, contingent upon an international climate change deal.

5. The impact assessments do not consider the impact of a target slowdown on future biofuels supply, which include:

    i) Investor perception of additional policy risk in the UK that will be reflected in a higher cost of capital for future investments, and therefore a higher cost of future biofuel production in the UK.

    ii) Negative impact on biofuel production innovation in the UK

6. Non-monetised benefits identified in the impact assessment to the original RTFO in 2007 are not accounted for. These include market / employment opportunities in agriculture and biodiesel production, and diversity and security of national fuel supply.

Appendix 5 demonstrates the potential of the first two factors alone to substantially alter the result of the impact assessment of option 3.

Question 14. Do you agree or disagree that an amended RTFO scheme should be the principal mechanism to deliver biofuels to help meet the requirements of the Renewable Energy Directive?

Ensus agrees

Question 17. Would the double rewards proposed under the RED be adequate to encourage second generation biofuels?

Looking to the longer term, and the ambitious goals for GHG reduction by 2050, new technologies & processes will be essential to enable the use of abundant and under-utilised feedstocks such as agricultural and forest wastes.

Given the long lead-time required to develop, pilot and commercialise these conversion processes, it is important to encourage their development now. However, policy must also recognise and encourage the potential for ongoing improvements in efficiency and GHG savings in existing biofuel processes. In this context, Ensus agrees that a 'double counting' incentive can make sense, but to be effective this support policy should also:

- Apply the same demanding sustainability criteria as for 'conventional' biofuels
- Reward GHG savings and fully account for ILUC effects and recognise the contribution to other sectors through co-products.
- Be technology-neutral, and defining 'second generation' biofuels based on GHG performance, feedstock potential and economic potential.
- Set longer term targets for 'second generation' biofuels that are additional to the core RED targets and go beyond 2020, consistent with a trajectory towards an overall GHG saving in line with 2050 targets.

Question 18. What other mechanisms could better encourage the development of second generation biofuels?

See response to Question 17.

Question 19. – Do you agree or disagree that this is the right course of action with regards to tallow ?

Ensus agrees with the proposed course of action, to revise default carbon saving assumptions for tallow.

The problem to be addressed arises due to the rules in RTFO concerning "Treatment of by-product" and applies to all by-products. The argument in RTFO is that because by-products represent less than 10% of the farm or factory gate value, the biofuel producer is unlikely to be able to influence the C&S data for the by-product. This is right, but while this argument can validly excuse the biofuel producer from providing sustainability criteria, there is no reason why it should follow for the by-product carbon footprint should be set at zero. The by-products have alternative uses and the carbon footprint of the by-products must be related to these uses. The rule within RTFO on by-products should set a standard GHG emission value for each by-product depending on its alternative use.

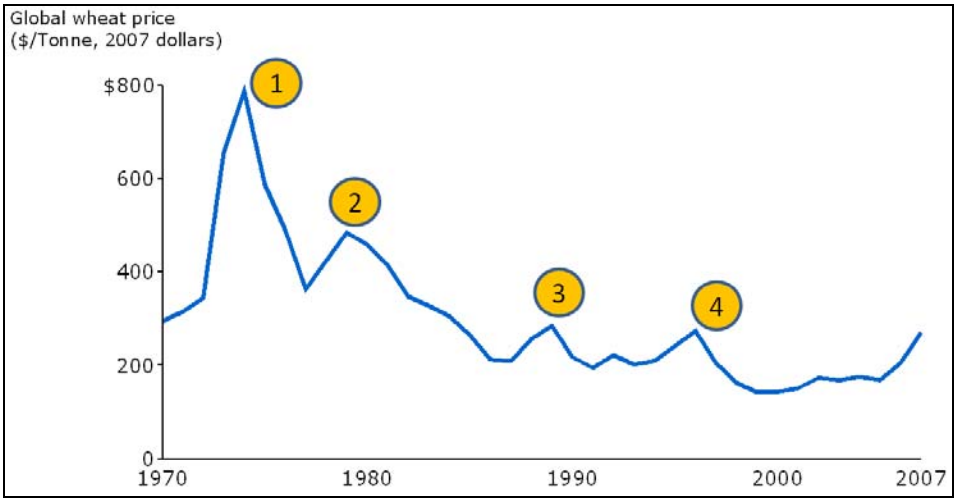
APPENDIX 1 – EU BIOFUEL TARGETS (2010)

Country	Energy target for biofuels in 2010	Notes
France	7.00%	
Germany	6.25%	
Spain	5.83%	
Belgium	5.75%	Indicative target
Denmark	5.75%	
Greece	5.75%	
Portugal	5.75%	Indicative target
Austria	5.75%	
Finland	5.75%	
Sweden	5.75%	Indicative target
Poland	5.75%	
Hungary	5.75%	Indicative target
Estonia	5.75%	Indicative target
Latvia	5.75%	Indicative target
Slovakia	5.75%	
Bulgaria	5.75%	
Czech Republic	5.75%	
Luxembourg	5.75%	Indicative target
Italy	5.75%	Indicative target
Slovenia	5.00%	
Netherlands	4.00%	
Ireland	4.00%	
Lithuania	3.28%	Energy equivalent of volume target
UK (RTFO)	**3.04%**	**Energy equivalent of volume target from April 2010**
Romania	2.63%	Energy equivalent of volume target
Cyprus	2.50%	
UK (Proposed slowdown)	**2.20%**	**Energy equivalent of volume target from April 2010**
Malta	1.25%	Indicative target

APPENDIX 2 – ENSUS' PERSPECTIVE ON THE GLOBAL WHEAT PRICE SPIKE (FROM GALLAGHER REVIEW INPUT, APRIL 2008)

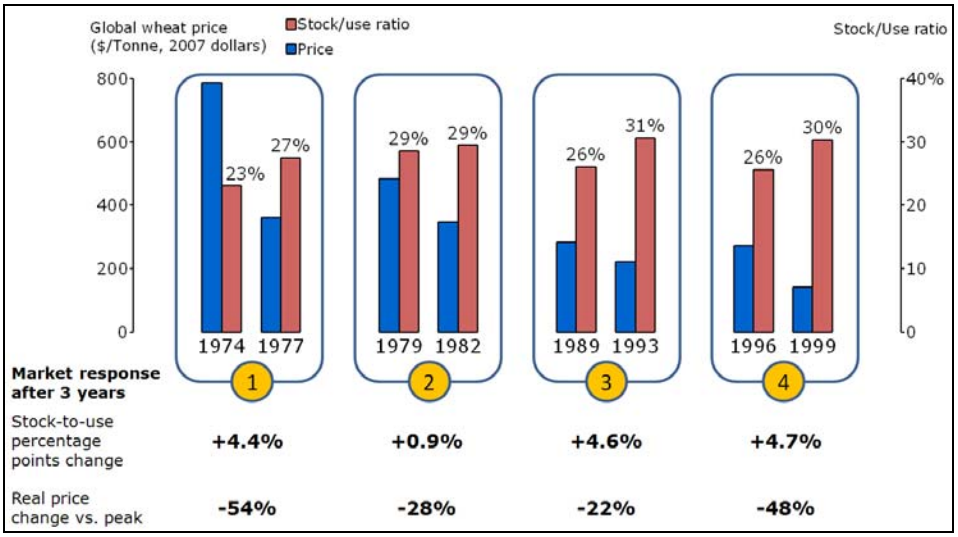
Global wheat prices have risen sharply over the past 3 years as stock-to-use ratio has fallen to 20%, near historic lows. This has prompted speculation about the impact of biofuel feedstock demand on global price and food security.

The principal cause of recent high prices is supply variability, rather than increased demand. Periodic and weather-related regional crop failures such as experienced in Australia in 2007 are not uncommon, and when two or more years are impacted in succession, the global shortage drives up price and reduces stocks. Such global wheat price spikes have occurred four times since 1970:



Global wheat price history (2007 dollars)
Source: UNCTAD (1), inflation adjusted

In each case, these high prices were reversed by global wheat output responding over the following 2-3 year period. Three years after the peak price, the stock-to-use ratio had increased by 1-5 percentage points, whilst prices fell back by 20-50%.



Market response to wheat prices
Source: UNCTAD, USDA WASDE, EIU

APPENDIX 3 – UK BIOETHANOL PROJECTS

Capacity delay/cancellation

Company	*Site*	*Capacity (M litres p.a.)*
Abengoa	Humber	440
Green Spirit Fuels	Humber	250
Green Spirit Fuels	Somerset	130
Vireol	Humber	190
Vireol	Yorkshire	200
Bioethanol Ltd.	Humber	130
Roquette	Northampton	120
Losonoco	Yorkshire	130
	Total	1590

Capacity in place / in construction

Company	*Site*	*Capacity (M litres p.a.)*
British Sugar	Wissington	70
Ensus	Teesside	400
Vivergo	Humber	400
	Total	870

Source: Agra, EBIO, Tallage, Ensus press searches

APPENDIX 4 – BIOETHANOL CAPACITY IN EU COUNTRIES

Million litres p.a. nameplate capacity at end of 2008

	In operation	In construction	Total
France	1519	330	1849
Germany	1103	90	1193
UK	**70**	**800**	**870**
Spain	669	-	669
Netherlands	14	480	494
Sweden	480	-	480
Belgium	150	300	450
Hungary	340	85	425
Italy	330	-	330
Poland	278	-	278
Austria	240	-	240
Rest of EU27	661	170	831
Grand Total	5644	2909	8553

Source: Agra, EBIO, Tallage, Ensus press searches

APPENDIX 5 – IMPACT ASSESSMENT ANALYSIS

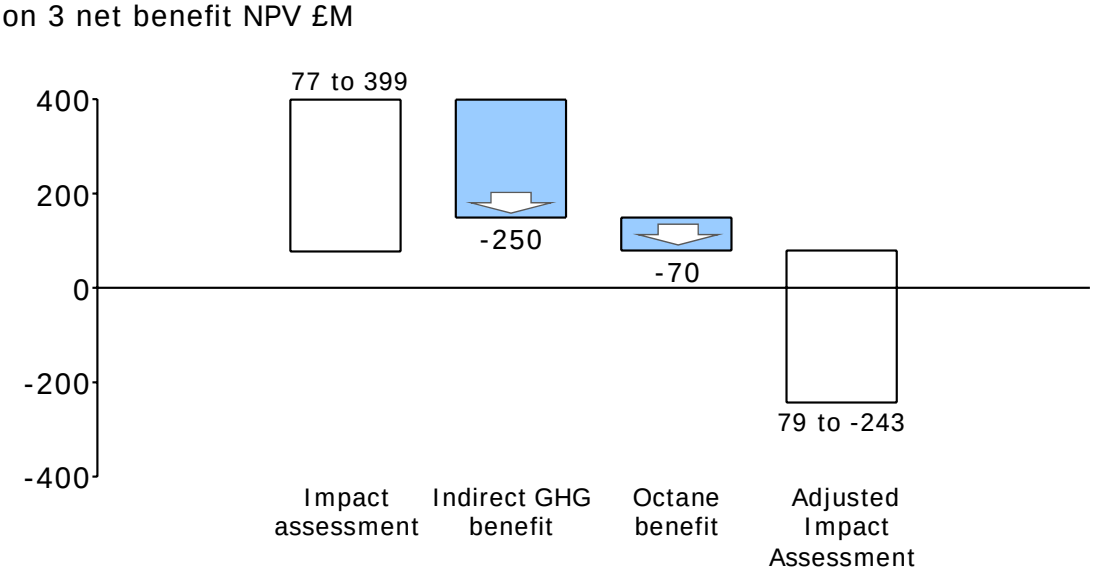
Two modifications are considered to the impact assessment for option 3, whose net benefit vs. option 1 is evaluated in the range £77-399M in the consultation document.

1. **Indirect GHG benefits of incremental projects in option 1.** It is assumed that if the original RTFO trajectory were maintained then one or more of the UK's grain bioethanol projects pending (e.g. Abengoa's plant on the Humber) would proceed without further delay, with capacity available from the end of 2010. In addition, an equivalent quantity of UK-grown rape biodiesel would enter production at the same time.

   The value of indirect greenhouse gas savings associated with the co-products from these incremental quantities of biofuel production for the period 2011 to 2015 (The earliest point at which new capacity is likely to come on stream in the UK in the 'slowdown' option 3). Overall GHG savings of 172% and 147% of mineral fuel are used for UK grain ethanol UK rape biodiesel, in line with the analysis presented in Ensus evidence submitted to the Gallagher review.

2. **Octane benefit of E5 fuel.** The octane benefit of bioethanol is evaluated by halving the energy penalty that is applied to bioethanol fuel. This is consistent with the results of a US study that evaluated the real-world mileage performance of a number of production cars running on low ethanol blends (2), and which found the typical fuel consumption penalty to be less than half that calculated using an energy-equivalence assumption.

The impact of these two adjustments is to reduce the net benefit of option 3 vs. option 1 by around £320m at 2007 prices, as shown below:



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