Consultation On European Commission Proposal To Amend EU Petrol, Diesel and Gas Oil Quality Requirements

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Foreword

Your comments are invited on the attached Commission proposal for a Directive amending the Fuel Quality Directive and the accompanying UK partial Regulatory Impact Assessment (RIA). The proposal makes a number of amendments to the Directive primarily aimed at increasing the uptake of biofuels in order to deliver greenhouse gas savings, but also including amendments to deliver or support air quality emissions savings.

Executive Summary

The Commission's proposal further amends the Fuel Quality Directive (98/70/EC) as amended. The main aim of the proposal is to deliver greenhouse gas reductions through setting mandatory greenhouse gas reduction targets for fuel suppliers and relaxing the current petrol specifications to reduce barriers to higher ethanol content petrol. The greenhouse gas reduction targets require a 10% reduction in fuel lifecycle emissions per unit of fuel energy between 2010 and 2020. Our assessment is that the main mechanism for delivering this would be through increasing biofuel uptake to 20-26% by 2020. The proposal permits marketing of a new grade of petrol containing up to 10% ethanol and relaxes petrol summer vapour pressure limits where the fuel contains ethanol. In addition the sulphur content of gas-oil for use in Non-Road Mobile Machinery is tightened from 1000mg/kg to 10mg/kg (equivalent to road fuel levels) from 31st December 2009. A small tightening of diesel polycyclic aromatic hydrocarbon content is also proposed.

The attached Regulatory Impact Assessment contains a detailed analysis of the impacts of the proposal, and options to amend it.

How to Respond

The consultation period began on 30 August 2007 and will run for 12 weeks until 22 November 2007. Please ensure that your response reaches us by the latter date. However, in view of the

fact that EU negotiations on this proposal are on-going, early responses would be welcomed. If you would like further copies of this consultation document it can be found at;

http://www.dft.gov.uk/stellent/groups/dft_about/documents/page/dft_consultation_page.hcsp

Please send consultation responses and any requests for additional copies of the documents to;

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Responses are requested to the specific questions on page 13 of this document, but you are also invited to submit any other comments or observations you may have on this proposal.

When responding please state whether you are responding as an individual or representing the views of an organisation. If you are responding on behalf of a larger organisation please make it clear who the organisation represents and, where applicable, how the views of members were assembled.

A list of those consulted is attached at Attachment A. If you have any suggestions of others who may wish to be involved in this process please contact us.

An outline of your response will be published in a summary of responses received along with a response from the Government.

According to the requirements of the Freedom of Information Act (2000), all information contained in your response to this consultation may be subject to publication or disclosure. This may include personal information such as your name and address. If you want your response or your name and address to remain confidential, you should explain why confidentiality is necessary. Your request will be granted only if it is consistent with Freedom of Information obligations. An automatic confidentiality disclaimer generated by your e-mail system will not be regarded as binding on the Department

This consultation has been produced in accordance with the principles of the Government's "Code of Practice on Consultation". The consultation criteria are included at the end of this document.

The proposals

EU Directive 98/70/EC as amended specifies mandatory quality requirements for all petrol, diesel and gas oil for use in non-road mobile machinery (NRMM) sold in the EU. The specified quality requirements are designed to deliver air quality benefits directly (e.g. by limiting lead and benzene content of petrol) or indirectly (e.g. by limiting sulphur content to enable efficient and durable operation of catalytic aftertreatment systems) and to standardise key operability parameters (e.g. octane rating of petrol and cetane number of diesel) to support a common market for vehicles.

The Commission's proposal deletes a number of now obsolete requirements from the existing Directives. In addition the proposal makes a number of changes to the existing requirements. The most significant change is the introduction of a requirement for fuel suppliers to report on the lifecycle greenhouse gas emissions of their fuels and reduce these by 1% per year (per unit of fuel energy)

between 2010 and 2020. This requirement applies to total fuel supply. Reductions could in theory be met by reducing refinery emissions, switching to fossil fuels with a lower carbon content per unit energy than petrol and diesel (e.g. Liquefied Petroleum Gas and Compressed Natural Gas) or increased supply of biofuels.

Extraction, refining and distribution emissions represent around 10-15% of fuel lifecycle greenhouse gas emissions. Although in recent years refinery emissions have been reduced by around 0.5-1% per annum further reductions are now becoming difficult. Fuel industry projections are that refinery emissions per unit of fuel produced will increase over the next 10 years. This is due to the use of poorer quality crude oils as higher quality reserves become depleted, the need to increase yield in response to increasing demand and the increase in diesel/petrol production ratio needed to satisfy demand. The industry has estimated that between 2005 and 2015 this will result in around a 2.7% increase in refinery emissions. Consequently changes in refinery emissions are unlikely to contribute significantly to the 10% greenhouse gas reduction target, indeed they may even increase the size of reduction needed from other measures.

Liquid petroleum gas (LPG) and compressed natural gas (CNG) could deliver some lifecycle greenhouse gas reductions, although the benefits of CNG would be significantly reduced if CNG had to be imported by pipeline to satisfy increased demand. A 10% switch to gas fuels would deliver around a 1% overall greenhouse gas saving. However even with much lower duty rates than for petrol and diesel gas fuelled vehicles make up less than 0.2% of the fleet. This is because of the additional cost of gas fuelled vehicles and the limited refuelling infrastructure. Consequently gaseous fuels are unlikely to make a major contribution to the 10% greenhouse gas reduction target.

This leaves increased biofuel usage as the primary means of meeting the 10% greenhouse gas reduction target. The target is

substantially more ambitious than the 2020 10% biofuel inclusion rate which was agreed, subject to a number of important provisos, by Member States in the Spring 2007 EU Energy Council. This is because each unit of biofuel does not deliver a 100% reduction in greenhouse gas emissions relative to the same quantity of fossil fuel. Current biofuels typically offer around 50% lower greenhouse gas emissions (bioethanol from sugar cane being the only significant exception at up 89% greenhouse gas reduction) than fossil fuels. Consequently a 10% biofuel inclusion rate might only be expected to deliver around a 5% greenhouse gas reduction. In addition, the UK and other Member States are likely to already have around 5% biofuel (by volume) in 2010 as a result of currently planned government support. In the UK we are aiming to achieve a 5% biofuel (by volume) target for 2010 through a Renewable Transport Fuels Obligation, due to be introduced in April 2008 if the draft Order bringing it into effect becomes law. The 10% greenhouse gas reduction included in the Commission's proposal is relative to a 2010 baseline so the biofuel delivering this reduction would be over and above 2010 biofuel levels. The result of these two factors is that the absolute level of biofuel penetration required to deliver a 10% greenhouse gas reduction over 2010 figures would be of the order of 25%.

The proposal introduces a definition of 'Arctic or severe' conditions based on winter temperatures being below the EU average. This definition is used to define the applicability of relaxations in petrol summer vapour pressure limits. These limits exist to control evaporative emissions of hydrocarbons which are precursors to ground-level ozone formation (an air quality pollutant causing irritation to the respiratory system). Member States with 'arctic or severe' conditions are allowed to relax this limit from 60kPa to 70kPa to aid vehicle-starting in cold summer conditions. The UK currently makes use of this relaxation on the grounds that UK summer temperatures are similar to those in Scandinavian regions. The new definition would require UK fuel to comply with the 60kPa summer limit since although we have cool summers compared to the EU average our winter temperatures are not below average.

The Commission have also introduced a separate vapour pressure relaxation for petrol containing ethanol (which inherently increases the volatility of the fuel). This allows up to an 8kPa increase in vapour pressure, depending on ethanol content, over the (non-arctic) 60kPa limit only. Petrol-ethanol blends in summer arctic petrol would still have to meet the 70kPa limit.

Petrol is currently limited to a maximum ethanol content of 5% by volume due to perceived vehicle operability issues with higher proportions of ethanol. The proposal permits introduction of a new grade of petrol with up to 10% ethanol. The 10% blend has to be marked as 'High biofuel petrol' and petrol meeting the current $\leq$5% ethanol content has to be marked as 'Low biofuel petrol'.

The proposal also reduces the maximum permissible Polycyclic Aromatic Hydrocarbon (PAH) content of diesel from 11% to 8% by mass with the aim of controlling PAH emissions, many of which are carcinogenic.

The proposal also tasks the Commission with developing a test methodology for approving metallic additives for use in fuels. Metallic additives are not currently widely used in EU fuel, although they are used in niche applications (lead replacement petrol, fuel borne catalysts for regenerating diesel particulate filters, octane boosters, combustion enhancers etc). There are concerns that some additives may impair the functioning of certain vehicle technologies or that they may result in emissions of metallic particles which could have adverse health impacts. At present there are no legislative restrictions on the use of these additives.

Fuel quality requirements for gas oil for use in non-road mobile machinery (e.g. agricultural and construction equipment) are currently limited to a limit on the maximum permissible sulphur content (2000mg/kg sulphur reducing to 1000mg/kg from 1st January 2008). The Commission propose a further reduction to 10mg/kg (virtually 'sulphur free') from 31st December 2009. This reduces sulphur content to road fuel levels and is to enable the use of catalytic emissions control technologies which would otherwise be

poisoned by high fuel sulphur content. For inland waterway fuel the sulphur content would only be tightened to 300mg/kg from 31st December 2009 and would then be further tightened to the 10mg/kg level from 31st December 2011. The less stringent requirements for inland waterway fuel are due to the emissions standards for these engines not being sufficiently stringent as to force the adoption of catalytic after-treatment systems. The justification for the final 10mg/kg sulphur requirement is unclear, although, given the relatively low demand for this fuel, UK fuel suppliers are likely to supply inland waterway gas oil to the same specification as other non-road mobile machinery gas oil in any case.

The final element of the proposal is an obligation on the Commission to report to the European Parliament and Council every 3 years on lifecycle greenhouse gas reductions, biofuel use, and all the other matter, and to accompany their reports with proposals where appropriate.

The Government's View

The Government is strongly supportive of the aims of this proposal, namely to increase biofuel uptake in order to deliver greenhouse gas reductions and to enable air quality improvements. However the Government is concerned that the implications of the proposal have not been properly considered and that there is a risk that it could cause major adverse environmental impacts. The Government therefore intends to seek amendments to the proposal aimed at eliminating these risks and adopting a more cautious approach. In addition we intend to seek amendments in a number of areas where the Commission's proposals impose costs without delivering any significant environmental benefit.

Lifecycle Greenhouse Gas Reduction Targets

Although the proposal does not explicitly state that the lifecycle greenhouse gas reduction target must be achieved through biofuel uptake, the Government believes that this is, in practice, the only option which would be able to make a substantial contribution to the target. The target being set by this proposal is substantially more ambitious than the 10% by energy biofuel inclusion rate which was agreed, with provisos, at the Spring 2007 EU Energy Council. The Commission's Impact Assessment suggests that a 12.5% biofuel inclusion rate in 2020 by energy content is possible. They assume that 90% of this will be biofuel with a 'high' greenhouse gas saving, half from imports and half from second generation biofuels. Using a baseline of 0.8% biofuels in 2010 they conclude that this will deliver a 9% greenhouse gas reduction leaving just 1% to come from other sources.

However the Commission's analysis appears very optimistic regarding the greenhouse gas savings delivered by biofuels. The timeframe for second generation biofuels to become available in significant quantities is uncertain, Industry are sceptical that this will happen by 2020. Current biofuels typically offer greenhouse gas savings of up to 50%, the significant exception being ethanol from sugar cane which is reported to have greenhouse gas savings of up to 89%. In addition the 0.8% 2010 baseline appears very low in light of the fact that most Member States have set targets for 2010 uptake of biofuel of 5.75% (by energy content) and in 2005 EU25 average biofuel penetration was believed to be 1.2-1.4%.

Our own analysis suggests a much higher level of biofuel uptake would be required. We have assumed a mix of biofuel sources favouring biodiesel and bioethanol sources with the highest current greenhouse gas savings. The UK baseline biofuel uptake in 2010 has been assumed to be around 5% (by volume) as a result of currently planned government support. Our estimates suggest that in the UK the Commission's proposal would result in 20-26%

biofuel by volume (around 19% by energy content) being required by 2020.

There are real concerns that the Commission have set these targets apparently with no consideration of their sustainability implications. Sustainable production was a key condition of the Spring Council's acceptance of the 10% biofuel targets and is of particular concern to environmental NGOs who have already expressed concerns at the impact of much more modest biofuel targets on wildlife habitats. In particular, feedstocks for biofuels such as palm oil have been associated with major land use change, including tropical deforestation in Southeast Asia. However other sustainability issues such as water usage and impacts on food production also need to be considered. As proposed by the Commission the targets would be legally binding and, even in the event that the targets were found to have adverse sustainability impacts, Member States would not legally have the authority to disapply them.

Sustainability assessment criteria are under development but the Government is of the view that it would be more responsible to wait until these criteria are finalised and we have practical experience of their effectiveness before adopting even more ambitious, legally binding biofuels/greenhouse gas reduction targets than have already been set. The Government therefore intends to press for the removal of the greenhouse gas targets from this proposal. However, in order to ensure that greenhouse gas reduction is retained as the guiding principle behind EU biofuels policy, we intend to seek a Commission review to set greenhouse gas reduction targets for inclusion in the Biofuels Directive (2003/30/EC) once experience of the effectiveness of sustainability criteria is available. In addition, in the UK context we have already committed to incentivising biofuels according to the carbon savings that they offer under the Renewable Transport Fuel Obligation from 2010, subject to some important conditions including consistency with EU and WTO rules. This should ensure

that the UK policy framework will promote biofuels with good greenhouse gas savings.

Summer Vapour Pressure Relaxations

The purpose of the current summer vapour pressure relaxation for areas with cool temperatures is to assist vehicle starting in cold summer conditions. Limiting the application of this on the basis of average winter temperatures within a Member State makes no logical sense. Subsequent discussions with the Commission indicate that this aspect of their proposal was an error. Furthermore the estimated emissions savings that the tighter vapour pressure limit would deliver (a 0.08% reduction in UK hydrocarbon emissions with a value of £102 - £1,482 per annum) are out of all proportion to the costs (estimated at £65m per annum). The Government therefore intends to seek amendment of this element so as to base the relaxation upon summer temperatures, retaining its applicability to the United Kingdom.

If we are successful in this, the vapour pressure relaxation for petrol containing ethanol would not apply in the UK (it is proposed to apply to the 60kPa, non 'arctic or severe' vapour pressure limit. It is, however, likely to increase evaporative emissions of hydrocarbons in mainland Europe, resulting in some increase in transboundary air pollution in the United Kingdom which might have implications for the meeting of our air quality objectives on ozone. The Commission have indicated their intention of bringing forward legislation to require vapour recovery at petrol stations as a means of offsetting the negative air quality impact of this waiver. They do not, however, appear to have compared the cost effectiveness of this approach with maintaining current vapour pressure limits. The Government therefore intends to seek deletion of the ethanol vapour pressure waiver.

Petrol Containing 10% Ethanol (E10)

The Commission’s proposal envisages the E10 and the E5 grades of fuel being marketed simultaneously, and differentiated by

labelling at the point of sale. The UK fuel distribution system does not, in practice, have the capacity to handle an additional grade of petrol. E10 has been used as a standard petrol grade for some years in the United States and we are not aware of any reported problems with the existing fleet. Australian studies with E10 have highlighted some vehicle compatibility issues with E10, but these were limited to carburetted cars, which have not been sold in the UK since 1992. These form a small, and declining, part of the fleet which could be catered for by specialist fuel suppliers (as per the leaded petrol situation). Alternatively, relatively cheap and straightforward modifications (rejetting of carburettors and changing fuel hoses) would make the majority of these vehicles compatible with E10. It is highly likely that, in response to pressure on them to reduce overall greenhouse gas emissions, mainstream UK petrol suppliers would switch entirely to E10 at some point, regardless of whether a separate E5 grade was also allowed. The Government is therefore of the view that it would be simpler to allow all petrol to contain up to 10% ethanol rather than have this as a separate grade. In this case the separate labelling of E10 as 'High biofuel petrol' and E5 as 'Low biofuel petrol' would be unnecessary. The description of fuel that might contain up to 10% ethanol as ‘high biofuel’ is in any case misleading in a future marketplace where E85 might be widely available, especially as no minimum ethanol content is set by the E10 specification.

The introduction of a new grade of petrol which is allowed to contain up to 10% ethanol goes some way towards delivering the Spring Energy Council requirement that the Fuel Quality Directive be amended to allow 'adequate levels of blending' to achieve the 2020 biofuels target. The Spring Council target is for 10% biofuels by energy content which would actually translate to 15% ethanol by volume. It is unlikely, however, that much of the current vehicle fleet would be compatible with an E15 blend, and there are potential impacts of higher ethanol content blends upon tailpipe emissions of Volatile Organic Compounds and consequent atmospheric Ozone levels which have yet to be assessed. Bearing this in mind the Government intends to seek a

requirement for the Commission to review the case for increasing ethanol content to at least 15%, by say 2015, including a review of the impact on Volatile Organic Compound emissions and ozone, and to then come forward with proposals.

Diesel PAH Content

The air quality benefits of the Commission's proposal to tighten the maximum permissible PAH content of diesel are not well demonstrated by emissions test data. This is probably because emissions control technology on current diesel cars and vans already provides good control over PAH emissions. Control of PAH emissions is even more effective on vehicles fitted with Diesel Particulate Filters which are expected to be standard technology on all new diesel cars from 2011). Test data shows that this technology practically eliminates solid phase PAH emissions. Although this element of the proposal would make no difference to the current position in the UK, as UK diesel already meets the proposed 8% limit with a large margin, in future the need to move to alternative crude oil supplies may make the 8% limit costly to meet and increase refinery Carbon Dioxide emissions. The Government therefore believes that it would be more appropriate to retain the current 11% PAH limit.

Non-Road Mobile Machinery Gas Oil Sulphur Content

Ultra low sulphur, or sulphur free, gas oil is a pre-requisite for non-road mobile machinery Stage IIIB emissions standards which were adopted in EU Directive 2004/26/EC. The impacts of these fuel quality requirements were considered in detail when these standards were negotiated. The Government supports the provision of sulphur-free gas oil for non-road mobile machinery as an essential enabler for these emissions standards.

As drafted, however, the requirement for fuel to meet a sulphur limit of 10mg/kg may prove extremely difficult to achieve. This difficulty arises due to the potential for minor contamination with

higher sulphur fuels within the distribution chain. The requirement could force the acquisition of a dedicated fleet of tankers for off-road gas oil deliveries, since the fuel would have to be segregated from higher sulphur fuels. Since minor contamination would not have any adverse effect on non-road mobile machinery emissions control systems, the Government believes that some flexibility over the need to meet 10mg/kg sulphur at the point of delivery to the user (rather than, for instance, at the point where the tanker is filled) is appropriate.

The non-road mobile machinery Stage IIIB standard does not become mandatory for rail engines until 2012. For this reason, and to avoid unnecessary costs to the rail sector, the Government considers that a 31st December 2011 implementation date for sulphur free rail gas oil would be more appropriate.

Consultation Questions

Your comments are particularly invited on;

1. Whether you think the assumptions and cost estimates in the Regulatory Impact Assessment (RIA) appear realistic;

2. Whether you think the benefit estimates in the RIA appear realistic;

3. The likely costs of annual monitoring and reporting on fuel lifecycle greenhouse gas emissions;

4. Whether you are aware of data demonstrating that measures other than biofuels are capable of making a significant contribution towards the 10% greenhouse gas reduction (per unit of fuel energy) target;

5. Whether you agree that the sustainability risks are sufficient that a cautious approach to setting binding EU-wide greenhouse gas targets for fuels is appropriate;

6. Whether you agree that a single petrol grade with a maximum 10% ethanol content is preferable to parallel marketing of separate 5% and 10% grades;

7. Whether you agree that some flexibility over compliance with non-road mobile machinery gas oil sulphur requirements to accommodate minor contamination in the distribution chain is appropriate;

8. Whether you think the assessment of the effect of the regulations on competition and small businesses looks reasonable;

9. Whether you foresee any unintended consequences of adopting this Directive.

You may wish to use the form attached at the end of this document in your response.

What will happen next

A summary of responses, including the next steps will be published following the close of consultation at the following web address;

http://www.dft.gov.uk/stellent/groups/dft_about/documents/page/dft_consultation_page.hcsp

Paper copies will be available on request. The Government will consider the views expressed in response to this consultation when it reviews its negotiating position on this proposal.

Question and Answer Brief

Below is a list of frequently asked questions about these proposals. If you still have questions after you have read this section please contact;

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Q1: What is the purpose of the proposal?

A1: To reduce greenhouse gas emissions from the extraction, production, supply and use of fuels. This would primarily be achieved through substantial increases in the uptake of biofuels. The proposal also introduces sulphur free gas oil ('red diesel') to enable new emissions control technology on off-road equipment e.g. construction and agricultural machinery.

Q2: What are 'lifecycle greenhouse gas emissions'?

A2:. Greenhouse gases are gases which, when they accumulate in the atmosphere, contribute to global climate change. Carbon dioxide (CO_2) is the best known greenhouse gas. This is emitted in large quantities from the combustion of fossil fuels and other sources. However greenhouse gases also include nitrous oxide (N_2O) and methane (CH_4). Both of these can be emitted in the fuel production and supply process e.g. nitrous oxide emissions from fertiliser use in cultivating bifouel crops and methane leakage from natural gas pipelines, The term 'lifecycle' emissions refers to emissions during the whole life of a fuel from extraction of crude oil/cultivation of biofuel crops to combustion in the vehicle. It covers extraction, refining, distribution and use of the fuel. Biofuels, although they may produce similar emissions when they are combusted, can offer lifecycle emissions savings because they absorb carbon from the atmosphere during their cultivation.

Q3: To whom will the lifecycle greenhouse gas reduction requirements apply?

A3:. The Commission's proposal places the obligation on 'fuel suppliers'. They did not define this term. We interpret it as meaning organisations involved in producing or importing road and non-road mobile machinery fuel for use in the UK. Discussions on the Commission's proposal have suggested that fuel supplier could most usefully be defined as the organisation responsible for paying duty on the fuel.

Q4: Why does the Government think that the greenhouse gas reduction targets can only be met by increased uptake of biofuels?

A4:. The targets require a decrease in lifecycle greenhouse gas emission per unit of fuel energy. Consequently, improvements in the efficiency with which each unit of energy is used by vehicles will not contribute towards the target. The reductions will therefore have to be delivered by improvements in the 'well to tank' emissions of the fuels. This includes emissions in extraction, refining and delivery of the fuels. At

present these phases account for around 10-15% of fuel lifecycle greenhouse gas emissions, primarily from the refining stage.

Refining and extraction emissions, where these occur in the EU, are already covered by the EU Emissions Trading Scheme so there is already an incentive to reduce them. Nevertheless the fuel industry projects that refining emissions per unit of fuel produced will actually increase over time due to the need to make use of poorer quality crude oil, increase yield in response to increasing demand and increase diesel/petrol production ratio. Even if net reductions in refining emissions can be delivered, given their limited contribution to lifecycle emissions, they would realistically only make a small contribution to the 10% target reduction in lifecycle emissions.

Road fuel gases such as LPG and CNG also deliver greenhouse gas savings due to the lower carbon content of the fuels compared to petrol and diesel. However the high cost of building/converting vehicles to use these fuels and currently limited refuelling infrastructure make it unlikely that they will form a substantial part of the vehicle fleet in the 2010-2020 timeframe. This limits their contribution to the target to very low levels. Furthermore if CNG vehicles did form a significant part of the fleet fuel would have to be imported to satisfy demand. CNG greenhouse gas saving benefits are rapidly reduced if the fuel has to be imported over long distances due to leakage of CNG (itself a potent greenhouse gas).

This leaves biofuels as the primary means of delivering greenhouse gas emissions reductions.

Q5: Why does the Government think this level of biofuel cannot be supplied without adverse sustainability impacts?

A5:. Studies suggest biofuel could be supplied sustainably to meet the current 5% target, however it is difficult to introduce a mechanism to guarantee sustainability that is compatible with international trade rules. Under the RTFO target, we will be requiring fuel suppliers to report on sustainability to encourage supply of sustainable biofuels and to monitor this potential issue. The Government is hopeful that higher biofuel levels can be achieved sustainably by means of sustainability

criteria and reporting requirements. However, until these criteria have been finalised and demonstrated to work we cannot be confident that they will work. If they do not, a move from 5% to 20-26% biofuel in the UK, with similar increases across the whole EU has potential to lead to major land use changes (e.g. tropical deforestation) and associated adverse impacts on habitats, biodiversity, food production, water usage etc. In view of the risk and the timeframe in which targets would apply the Government feels it would be more responsible to wait until sustainability criteria are finalised and we have practical experience that they work. We anticipate that this experience should be available by around 2010 which would still allow 2020 targets to be set, but with more confidence.

Q6: Will existing vehicles be compatible with these fuels?

A6:. The proposal does not restrict fuel suppliers in how they should meet the targets. Therefore they would not necessarily supply high blends of bioethanol or biodiesel in all road fuel. The proposal would allow regular petrol with up to 10% ethanol content to be sold (currently limited to 5%). Widespread experience in the United States and Australian studies show that existing petrol vehicles are compatible with petrol containing 10% ethanol. The Australian study highlights some exceptions, but these were older, carburetted vehicles which exhibited starting difficulties and poor running due to the lower energy content of the fuel. Such vehicles are a very small and decreasing proportion of the UK fleet (manufacturers have not sold carburetted cars in the UK since before 1993). Relatively simple modifications (rejetting of carburettors and changing of fuel hoses and seals) would make these vehicles compatible with 10% ethanol, alternatively they could be catered for by specialist fuels as was the case with the phase out of leaded petrol. The proposal does not restrict the biodiesel content of diesel, although in practice this is restricted by the industry fuel standard EN590. This allows up to 5% Fatty Acid Methyl Ester biodiesel in diesel. Some vehicles are compatible with higher biodiesel levels, but others are not.

Q7: Aren't the greenhouse gas targets, petrol ethanol limits and EN590 biodiesel limits incompatible?

A7:. If the greenhouse gas reductions were made solely by blending bioethanol and biodiesel into all petrol and diesel then yes the ethanol limit and EN590 biodiesel limit would prevent the 10% greenhouse gas reduction target being achieved. Consequently there may be a need to review the ethanol and EN590 biodiesel limits in future, as and when vehicle compatibility allows use of higher blends. However there are also other means of introducing biofuels. The Fuel Quality Directive places no restriction on the sale of very high (>30%) biofuel content fuel grades for use in specially designed or adapted vehicles e.g. 85% ethanol for use in 'Flex Fuel Vehicles'. Alternative forms of biofuel are also possible e.g. biobutanol for use in petrol and an alternative form of biodiesel formed by hydrogenation of vegetable oil. These fuels would not be subject to the current restrictions on ethanol and (Fatty Acid Methyl Ester) biodiesel content.

Q8: Do we really need cleaner non-road mobile machinery gas oil?

A8:. Mandatory standards were adopted in 2004 setting strict limits on the permissible levels of particulate matter, oxides of nitrogen, carbon monoxide and hydrocarbons that may be emitted by new non-road mobile machinery engines. We expect these standards will force the adoption of catalytically based emissions control systems on new non-road mobile machinery engines from 2010. Such systems would be 'poisoned' by the sulphur content of current gas oil, we therefore anticipate that cleaner non-road mobile machinery gas oil will be required to support agreed emissions standards and improvements in air quality.

Q9: What are the benefits of the proposal?

A9: Provided the reporting mechanisms adopted at a later stage are robust the proposal would make significant reductions in greenhouse gas emissions from road fuel and gas oil use. We estimate this to be in the order of 2.4Mtonnes Carbon in 2020. It would also relax existing fuel

quality barriers to greater use of bioethanol. In addition it would deliver small reductions in particulate matter emissions, but a small increase in emissions of oxides of nitrogen would also be expected. Both of these are air pollutants for which the UK is struggling to meet its health-based air quality objectives. The gas oil requirements are an essential enabler to the non-road mobile machinery Stage IIIB & IV emissions standards which are estimated save 1.6-2.9 ktonnes of particulate matter and 11-20 ktonnes of oxides of nitrogen emissions.

Q10: When will all of these new requirements take effect?

A10: The greenhouse gas reporting requirements would take effect from 1st January 2009, with fuel suppliers then being obliged to reduce lifecycle emissions by 1% per annum from 1st January 2011 to 31st December 2020. The sulphur free gas oil requirements would take effect from 31st December 2009

Q11: How will the proposal affect the cost of fuel?

A11: Available cost projections for biofuels suggest that the costs to suppliers of petrol and diesel prices would increase by around 2p/l by 2020. However none of these projections consider biofuel demand at levels as high as those implied by the Commission's proposal, consequently the actual costs could be even higher. If only sustainably produced biofuels were supplied, this would place an additional constraint on supply which could further increase costs. Non-road mobile machinery gas oil costs are estimated to increase by up to 2-3p/l.

Q12: What will be the cost to the UK oil industry?

A12:. The total cost of the Commission’s proposal to UK fuel suppliers is estimated to be in the range £667 million to £1.36 billion per annum in 2020 (when the maximum 10% greenhouse gas reduction applies). The majority of this cost is the additional cost of biofuel to meet the greenhouse gas reduction target although non-road mobile machinery gas oil cost make some contribution.

Q13: How have the greenhouse gas reduction costs been assessed?

A13: The greenhouse gas reduction targets are assumed to be met by increased biofuel usage. Costs have been assessed using a range of future biofuel costs ranging from DEFRA's best estimates to the European Commission's DG TREN's cost assumptions from their Biofuels Progress Report. The greenhouse gas reductions delivered by biofuels have been taken from DG TREN's figures assuming that greenhouse gas reduction in petrol and diesel will be evenly split. It has been assumed that increased biofuel uptake will primarily comprise bioethanol from sugar cane and biodiesel from rapeseed and palm oil in view of the costs and greenhouse gas savings of the various biofuels. It has been assumed that second generation biofuels will not be available in large quantities in the 2010-2020 timeframe. Costs have been assessed both annually and over the 2010-2020 period discounting future costs at a rate of 3.5%.

Q14: How have the air quality impacts been assessed?

A14: Emissions impacts of biodiesel have been assessed using US-EPA estimates and baseline emissions generated from the UK National Atmospheric Emissions Inventory (accounting for all currently adopted vehicle emissions standards). The impacts of revised petrol vapour pressure limits have also been estimated using the National Atmospheric Emissions Inventory.

Further background information can be found in the Regulatory Impact Assessment.

Regulatory Impact Assessment

The Regulatory Impact Assessment can be found at Attachment C. When responding to the consultation please comment on the analysis of costs and benefits, giving supporting evidence wherever possible.

Please also highlight any possible unintended consequences of the policy, and practical enforcement or implementation issues.

Consultation Response Form

Consultation On Commission Proposal To Amend EU Petrol, Diesel and Gas Oil Quality Requirements

PART 1 - Information about you

Name	
Address	
Postcode	
email	
Company Name or Organisation (if applicable)	
Please tick one box from the list below that best describes you /your company or organisation.	
☐	Small to Medium Enterprise (up to 50 employees)
☐	Large Company
☐	Representative Organisation
☐	Trade Union
☐	Interest Group
☐	Local Government
☐	Central Government
☐	Police
☐	Member of the public
☐	Other (please describe):
If you are responding on behalf of an organisation or interest group how many members do you have and how did you obtain the views of your members:	
If you would like your response or personal details to be treated **confidentiall**y please explain why:	

PART 2 - Your Comments

1. Do you think the assumptions and cost estimates in the Regulatory Impact Assessment (RIA) appear realistic?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

2. Do you think the benefit estimates in the RIA appear realistic?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

3. What are the likely costs of annual monitoring and reporting on fuel lifecycle greenhouse gas emissions?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

4. Are you aware of data demonstrating that measures other than biofuels are capable of making a significant contribution towards the 10% greenhouse gas reduction (per unit of fuel energy) target?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

5. Do you agree that the sustainability risks are sufficient that a cautious approach to setting of greenhouse gas targets for fuels is appropriate?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

6. Do you agree that a single petrol grade with a maximum 10% ethanol content is preferable to parallel marketing of separate 5% and 10% grades?;	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

7. Do you agree that some flexibility over compliance with gas oil sulphur requirements to accommodate minor contamination in the distribution chain is appropriate?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

8. Do you think the assessment of the effect of the regulations on competition and small businesses looks reasonable?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

9. Do you foresee any unintended consequences of adopting this Regulation?	Yes ☐	No ☐
Please explain your reasons or add any additional comments you wish to make:		

If you have any other general comment that you would like to make concerning this consultation, please give them here:

Please send this completed form to:

Chris Parkin
Cleaner Fuels & Vehicles
Department for Transport
Zone 2/23
Great Minster House
76 Marsham Street
London
SW1P 4DR

Tel: 020 7944 2958
Fax: 020 7944 2605

Email: chris.parkin@dft.gsi.gov.uk

The deadline for responses is: 22 November 2007

Code of Practice on Consultation

This consultation has been produced in accordance with the principles of the Government's Code of Practice on Consultation.

The code of practice sets out the following criteria:

1. Consult widely throughout the process, allowing a minimum of 12 weeks for written consultation at least once during the development of the policy.

2. Be clear about what your proposals are, who may be affected, what questions are being asked and the time-scale for responses.

3. Ensure that your consultation is clear, concise and widely accessible.

4. Give feedback regarding the responses received and how the consultation process influenced the policy.

5. Monitor your Department's effectiveness at consultation, including through the use of a designated consultation co-ordinator.

6. Ensure your consultation follows better regulation best practice, including carrying out a Regulatory Impact Assessment if appropriate.

A full version of the code of practice is available on the Cabinet Office web-site at:
http://www.cabinet-office.gov.uk/regulation/consultation/code.asp

If you consider that this consultation does not comply with the criteria or have comments about the consultation process please contact:
Andrew D Price
Consultation Co-ordinator
Department for Transport
Zone 4/13 Great Minster House
76 Marsham Street
London, SW1P 4DR
email: consultation@dft.gsi.gov.uk