Biofuel Obligation Scheme Consultation on future increases in the biofuels obligation rate January 2018

Response from The Maxol Group

Overview

Maxol is proud of its role in pioneering the use of bio-fuels in the marketplace in Ireland and is committed to providing environmental friendly fuels across our Network. Our primary concern is to serve the motorist while meeting our environmental obligations, however we also accept that The Maxol Group and our industry has a significant role to play in helping Ireland meet the 2020 renewable energy target in the transport sector.

As a long standing and proactive member of the Irish Petroleum Industry Association we have contributed to and are supportive of their detailed submission on this matter however we would also like to make the following observations.

Question 1

In order to meet Ireland's 2020 renewable energy target in the transport sector, it is proposed to increase the biofuel obligation rate to 10% from 2019 and circa 12% from 2020.
-Do you support this policy measure?
-What biofuels do you envisage contributing to meeting these increased rates?
-What alternative approaches do you view as being more likely to achieving Ireland's 2020 renewable energy target in the transport sector?

Do you support this policy measure?

The Maxol Group recognizes the need for Ireland to increase the biofuel obligation rate to reach the 2020 Renewable Energy Targets in the transport sector. Since 2008 The Group has put significant time and resources into the introduction of ethanol blending and, post the introduction of the BOS Scheme in 2010, blending biodiesel.

While we have always been supportive of the Departments Biofuel Strategy, and believe the obligation rate of 10% is achievable, we have some concerns regarding our industry's ability to meet the higher rate proposed in 2020.

Notwithstanding this we recognise that higher biofuel blends will play a vital role in meeting the 2020 environmental targets set by the EU and are keen to collaborate with the Department, the wider oil industry and the motor industry ensure this can be achieved in a way that provides quality fuels to the Irish motorist in the most cost-effective manner.

What biofuels do you envisage contributing to meeting these increased rates?

During previous consultations it was envisaged that second generation biofuels and advanced diesel blending components such as Hydrogenated Vegetable Oils (HVO) would become more commonly available by 2018 however this has not proved to be the case.

To meet both the current obligation and any proposed increase we will continue to rely on the traditional biofuels, ethanol and biodiesel, and their limitations are outlined in the responses below.

What alternative approaches do you view as being more likely to achieving Ireland's 2020 renewable energy target in the transport sector?

It is unlikely that a viable alternative approach will present itself by 2020. Electric vehicles have yet to make a significant impact and second-generation biofuels are either in development stages or are not widely available.

Existing biofuels are the most feasible method of achieving the 2020 target however it must be recognised that there are limits to the amount they can realistically contribute.

Question 2
In order to meet Ireland's 2020 renewable energy target in the transport sector, it is proposed to increase the biofuel obligation rate to 10% from 2019 and circa 12% from 2020.
- What impact do you believe this will have on fuel prices?
- What alternative approaches could provide a more cost-effective method of achieving Ireland's 2020 renewable energy target in the transport sector?

The single largest component in the cost of fuel in Ireland continues to be excise Duty and Tax however the recent increases in the biofuel obligation have had a negative effect on fuel prices primarily because biodiesel has been the key tool to meeting the increased obligation.

Biodiesel is significantly more expensive then diesel and while the cost diesel has fluctuated according to international market conditions over recent years, the cost of biodiesel has remained resolutely high. Given the EU wide energy targets international demand for biodiesel is expected to increase thus keeping the cost at current levels for the foreseeable future. This will have a significant impact on the economy as diesel is the preeminent fuel used in commercial vehicles and the road haulage industry.

The cost of biodiesel has an obvious cost on the price of diesel however less obvious is its impact on the price of petrol. The biofuel obligation rate of 8% is the same for both petrol and diesel and the mechanism used to demonstrate compliance is the same (one certificate is issued for each litre of biofuel placed on the market).

The lower blend rate of 5% in petrol means that petrol incurs a larger obligation then it is able to meet i.e. there will always be less certificates then required. To make up for this shortfall certificates issued for blending biodiesel are used to meet the obligation. As biodiesel is considerably more expensive then ethanol this further adds to the cost of delivering 'BOS Compliant' petrol.

This anomaly could be addressed by introducing E10 (if the rate did not move beyond 10%). While the majority of the petrol vehicles currently in service today are compatible with

ethanol blends greater than 5%, there are concerns that a significant number are not as there are issues of compatibility with ethanol. These issues fall into three broad areas: corrosion, material compatibility and combustion, all of which can affect petrol engines.

Question 3
In order to maximise the contribution of the Biofuels Obligation Scheme to Ireland's renewable energy target in the transport sector, it is proposed to restrict / reduce the current level of use of carried over certificates in 2020.
Do you support this approach?
What would be the appropriate level of carryover for use in 2020 and beyond?
If you feel the current level should be maintained, please provide reasoning including an alternative approach to maximising the contribution from biofuels to achieve Ireland's renewable energy target in the transport sector.

The current provision which allows certificates to be carried into the following two years has proved extremely beneficial. It enables the obligation to be met economically, without the risk of triggering a buy-out penalty. We see this as a vital aspect of the scheme particularly beyond 2020 as it would allow oil companies to build a reserve of certificates in 2018 and 2019 to help reach the higher targets in later years.

This is particularly beneficial as advanced diesel blending components such as Hydrogenated Vegetable Oils (HVO) will be an essential part of the biofuel mix but are unlikely to be available in significant quantities by 2020.

Question 4
The recently amended Fuel Quality Directive (Directive 98/70/EC) places obligations on suppliers to reduce emissions – specifically the reduction in carbon intensity of at least 6% to be met by 31 December 2020 compared to 2010.
-How do you envisage this requirement being met?
-Are there any measures that Government could take to assist obligated parties reach the Fuel Quality Directive target?

The Maxol Group are concerned by some of the challenges posed by the Fuels Quality Directive and, in particular, the challenge to reduce the lifecycle greenhouse gas emissions by 6% in 2020 from a baseline set in 2010.

Part of this challenge lies in the Directive itself which limits the maximum amount of biofuel oil companies are permitted to blend. Blending to the maximum permitted limits (10% ethanol and 7% Biodiesel) will achieve an estimated reduction in carbon intensity of circa 4%. This leaves oil suppliers with an invidious choice, blend beyond the permitted limits and achieve the 6% target or comply fully with the Directive and fall short of the target.

The use of Hydrogenated Vegetable Oil (HVO) and second-generation biofuels could address this issue as they are not restricted to the same limits as current biofuels however

production of HVO is very limited throughout Europe and, in practical terms, is not available to oil companies supplying the Irish market.

Question 5:
Increasing the biofuel obligation rate is likely to involve the introduction of fuels with higher concentrations of biofuel (such as E10 which is petrol blended with 10% ethanol and B7 which is diesel blended with 7% biodiesel). This may lead to compatibility issues with older vehicles, consumer cost, the necessity of consumer awareness in order to ease its introduction, and potentially the development in forecourt infrastructure.
-What do you view as the technical and consumer challenges associated with increasing the biofuel obligation rate (including introducing fuels such as E10 and B7)?
-Can fuels such as E10 and B7 be brought to the market in Ireland by 2020?
-Are there technical barriers to achieving 7% conventional biodiesel blend (B7) averaged across the full year, including the winter months?
-For biodiesel blend rates higher than 7%, are drop-in biofuels a viable solution for Ireland?

What do you view as the technical and consumer challenges associated with increasing the biofuel obligation rate (including introducing fuels such as E10 and B7)?

The Fuel Quality Directive (FQD) (2009/30/EC) defines the technical standards for transport fuels to be used across the EU. Initially these specifications permitted blending of up to 5% Ethanol in petrol (E5) however this was subsequently to 10% (E10).

Although this change occurred in 2013 there are still industry concerns regarding potential compatibility issues with the fuel systems of older cars. Other jurisdictions addressed this issue by mandating that, where E10 is sold, filling stations should supply an E5 'protection grade' petrol for use by vehicles not compatible with E10.

Unlike other jurisdictions the Republic of Ireland only has two grades of motor fuels, Regular Unleaded Petrol with 5% ethanol and Diesel with up to 7% biodiesel. This is reflected in both the national import infrastructure where the terminals in Dublin, Whitegate, Foynes and Galway have dedicated tanks for two grades of road transport fuels (in addition to storage for Gas Oil and Kerosene) and in the forecourt infrastructure where storage tanks and retail pumps are also dedicated to two grades, petrol and diesel. While some forecourts have the capacity to supply a third grade it is by no means universal.

Higher blend petrol (E10) is a realistic proposition if the need for a protection grade such as E5 is removed though more research needs to be done to assess the impact on the national fleet and to develop a strategy that removes older non- compatible vehicles from the fleet (such as a scrappage scheme). These questions are unfortunately outside our remit.

<u>Security of Supply</u>

In order to comply with the Fuel Quality Directive ethanol can only be blended with specially formulated petrol known as RBOB's (Reformulated Gasoline Blendstock for Oxygen

Blending) as blending ethanol with regular unleaded petrol would result in an off-spec product.

Most UK refineries produce RBOB's specifically designed to be blended with 5% ethanol (in keeping with the UK's obligation rate). Unless the UK also moved to E10 it is unlikely that an Irish petroleum importer could source a suitable RBOB in the UK at a reasonable cost, if at all.

Can fuels such as E10 and B7 be brought to the market in Ireland by 2020?
If the requirement for a protection grade is removed as outlined above and accepting the concerns regarding biodiesel detailed below, it is feasible to introduce E10 and B7 by 2020.

Are there technical barriers to achieving 7% conventional biodiesel blend (B7) averaged across the full year, including the winter months?
Blending biodiesel at a rate of 7% throughout the year is the only way the industry can meet the proposed 10% obligation. This rate complies with the specification set out in the Fuels Quality Directive and the applicable EN Standards however two points should be noted

1. To meet the obligation only double cert material can be used i.e. biodiesel produced from e.g. Used Cooking Oil making it more difficult to ensure the quality of the biodiesel is suited to Winter blending and is compliant with the EN14214 standard.
2. The blend rate is at the very top of the permitted limits.

While auto manufacturers must produce vehicles capable of using fuel that meets these standards there are industry concerns about filter blocking in cold weather. For this reason, biodiesel has traditionally been blended at a higher rate during the warmer summer months however as the obligation percentage increases the industry has been forced to blend at higher rates throughout the year.

For biodiesel blend rates higher than 7%, are drop-in biofuels a viable solution for Ireland?
As outlined in the response to Q4 second generation drop in fuels are a viable technical solution. However, in reality, HVO is the only commercially available drop in fuel and its availability is extremely limited.

Question 6:
Since the publication of A European Strategy for Low Emission Mobility in July 2016, the European Commission has designated that food based biofuels have a limited role in decarbonising the transport sector due to concerns about their actual contribution to the decarbonisation. It is envisaged that a gradual reduction of food based biofuels and their replacement by more advanced biofuels will realise the potential of decarbonising the transport sector and minimise the overall indirect land-use change impacts. The EU Commission has signaled that the trajectory of biofuels is away from first generation biofuels towards advanced or second-generation biofuels. This is primarily to be achieved through the introduction of a cap on first generation biofuels and the incentivisation of advanced biofuels.
-How should the development of increased levels of advanced biofuels be supported in Ireland?

The Maxol Group fully supports the reduction of food based biofuels and the move towards advanced or second-generation biofuels however we have concerns about the limited range and availability of such fuels and the impact this will have on our ability to continue to meet the biofuel obligation.

As The Group is a biofuel purchaser rather than producer we have no strong views on how the develop of such fuels however we feel that incentives such as awarding additional certificates (triple certs) for advanced biofuels would help Irish companies compete for very limited resources when they become available.

Question 7:
Currently, the Biofuels Obligation Scheme is limited to the transport sector. In the heating sector, there is a high use of fossil fuels (including oil) and a target 12% of energy consumption from renewable sources by 2020.
-What is your opinion on the potential for an obligation scheme (similar to the Biofuels Obligation Scheme) in the heat sector?
-What do you see as the technical barriers to introducing such a scheme?

In theory a Biofuel Obligation Scheme for the heat sector would contribute towards the RES-H renewables target in 2020 however there are important differences between the transport sector and the heat sector.

In the transport sector fuels such as petrol and diesel are essentially FMCG (Fast Moving Consumer Goods) that are supplied to a modern forecourt network for sale to the motoring public. The turnover of product through the supply chain is both predictable (similar volumes throughout the year) and quick (product is used and replace in short cycles).

In the heating sector fuels such as kerosene and Gas Oil are supplied in larger quantities to the end user (500 litres plus rather then 50-60 litres) and is stored in various tanks (domestic oil tanks to larger commercial oil tanks) where the housekeeping conditions are different to that of a forecourt leading to the potential for sediment build up / water egress in tanks.

This combination of potential long storage and the presence of contaminants can lead to bacteria growth in fuel which in turn gives rise to filter blocking and issues with heating burners.

The use of HVO would address these concerns but, as outlined in the response to previous questions, there is a significant concern about their availability.