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BIOFUELS OBLIGATION SCHEME

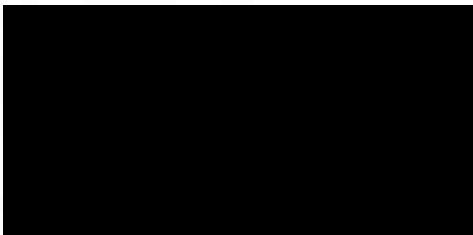
CONSULTATION ON THE DEVELOPMENT OF THE BIOFUELS OBLIGATION SCHEME FOR THE PERIOD 2021 TO 2030. SUBMISSION ON BEHALF OF GREEN BIOFUELS IRELAND LIMITED. (GBIL).

Date: 20th November 2019.

Dear Sir/Madam,

We welcome the opportunity to respond to the DCCAE consultation on the development of the Biofuels Obligation Scheme for the period 2021 to 2030. GBIL is Ireland's largest indigenous biodiesel manufacturer. Employing 32 full time staff and with more than 100 in the supply chain, production commenced in July 2008 and to date the company has manufactured and sold almost 400,000,000 litres of fully sustainable and certified waste biodiesel, servicing most of the obligated parties in Ireland and providing over 1,000,000 tonnes of CO2 savings to the Irish transport sector in that period.

The feedstocks for the facility are used cooking oil and animal fats sourced solely on the island or Ireland, thus providing a valuable revenue to the farming and waste collection industries in Ireland.



CONSULTATION QUESTIONS AND RESPONSES.

4.1 BIOFUEL OBLIGATION

Question 1:

The Climate Action Plan has identified that blending levels of 10% by volume in petrol and 12% by volume in diesel on average must be achieved by 2030 in order to contribute to meeting Ireland's emission reduction target.

The recast Renewable Energy Directive sets out a target of at least 14% renewable energy in transport sector by 2030. These blending levels, together with the expected growth in electric vehicles, will ensure that the 14% target is achieved.

It is intended that the biofuel obligation rate in the Biofuels Obligation Scheme will increase every two years (i.e. in 2022, 2024, 2026, 2028 and 2030). It is intended that the increases will ensure a relatively linear increase in the level of renewable energy used in the transport sector.

Relevant section of the recast Renewable Energy Directive: Article 25(1)

(a) Do you consider these blending levels to be a suitable balance of feasibility and ambition?

We consider the blending levels to be appropriate. An E10 and B12 (if double counted material is used) is feasible today, however, with respect to ambition higher levels of biodiesel blending should also be considered such as B20 in fleets (although this may require some form of excise mitigation). E10 is available in some countries throughout the EU and will eventually become the dominant gasoline blend across all member states. B12 is feasible with the inclusion of double counted waste-based biodiesel, however, for a B12 volume-based blend it may be more appropriate to consider a B10 blend initially, as is the case in France.

(b) Do you consider the approach to increasing the biofuel obligation rate appropriate?

The approach to increasing the biofuel obligation rate is appropriate as long as the increases are clearly set out to achieve the ultimate target. This is necessary to ensure continued investment in biofuels infrastructure whereby the necessary financing availability depends on certainty of regulations over the period to 2030.

Question 2:

Increasing the biofuel obligation rate is likely to involve the introduction of fuels with higher concentrations of biofuel (such as petrol blended with 10% bioethanol and diesel blended with 12% biodiesel on average).

This may lead to compatibility issues with older vehicles, additional cost to the consumer, the necessity to inform consumers in order to ease its introduction, and potentially a need to develop forecourt infrastructure.

(a) What do you view as the technical and consumer challenges associated with a blending level of 10% by volume in petrol on average?

Regarding an E10 (10% ethanol in gasoline) there are no unsurmountable technical challenges as this blend is widely available throughout the EU. There will, however, be some consumer challenges to overcome in that some older vehicles may require some modifications to accommodate this blend. As well as this as ethanol has a significantly lower energy content than

gasoline at 21 MJ/L against 35MJ/L which makes it a less efficient fuel than gasoline with a subsequent effect on fuel economy. Correspondingly the energy content of biodiesel is 35 MJ/L which compares favourably with the energy content of diesel at 40 MJ/L.

(Source: "Energy content of biofuel- Wikipedia"),

Another factor to consider is the existing forecourt structure, whereby many facilities have a single gasoline storage tank thus preventing them from providing the consumer with a choice between E5 and E10, without significant capital investment and as ethanol is more expensive than gasoline the E10 price would be expected to be higher than the price of E5, which would more than likely lead the consumer to migrate to the cheaper option, E5.

We would recommend that the Department consult directly with the Obligated parties prior to deciding on the rollout of E10 as we have been informed that the petrol specification, EN 228:2012 will not be met with E10. Presently, E5 is widely available in the market, however, without the ethanol the petrol itself does not meet the fuel specification. Increasing the ethanol blend to E10 without changing the specification of the petrol at refinery level will lead to the Octane level being too high and therefore the blend will be out of specification.

(b) What do you view as the technical and consumer challenges associated with a blending level of 12% by volume in diesel on average?

Regarding biodiesel there would not be any significant consumer challenges to overcome as most consumers are unaware of the inclusion of biodiesel in fossil diesel in Ireland. As well as this the pumps have been marked as B7 for some time. Due to its oxidation qualities higher blends of biodiesel actually improves the miles per gallon as well as acting as a lubricant.

Regarding technical challenges, existing engine manufacturers warranties are based on a B7 blend (blend wall). If the intention is to rollout a B12 with double counted material, then the physical blending will be 6%, below the current blend wall. If the intention is to have a physical blend of 12% then it may lead to potential issues with engine warranties.

An alternative solution is one currently in operation in France, whereby, through a flexibility in the EU Fuel Quality Directive, France has decided to permit the sale of B10 diesel fuel in its territory and the French national fuel law has been amended to permit the sale of diesel fuel containing maximum 10% vol FAME (B10).

<https://www.acea.be/publications/article/b10-diesel-fuel-vehicle-compatibility-list>.

(c) What types of biofuel would you expect to be used to meet these increased blending levels?

We would expect that crop-based ethanol will be used to meet the E10 requirement and a combination of waste based double counted biodiesel (FAME) in conjunction with small volumes of HVO (Hydrogenated vegetable oil) to reach a B12.

(d) Are such fuels available in sufficient quantities to meet the needs of the Irish market?

With regard to ethanol in 2018 a total of 53.8 million litres was blended into 1.041 billion litres of gasoline (5% blend) and 162 million litres of FAME was blended into 3.392 billion litres of diesel (4.7% blend, all double counted therefore equivalent to 9.6% in compliance terms. For the period January to September 2019 39 million litres of ethanol and 200 million litres of FAME were consumed.

Source: NORA.ie statistics.

Assuming static gasoline and diesel sales in 2020, an 11% blending obligation will require approximately 52 million litres of ethanol and 216 million litres of double counted waste-based FAME only slightly above the expected 2019 levels and these volumes are currently readily available and are already supplied in the marketplace.

- (e) What actions are needed (outside of the Biofuels Obligation Scheme) to support the increase in blending levels (e.g. consumer communication)?

Ethanol

Prior to the rollout of E10 there will be a requirement for communication with consumers to explain compatibility issues, a reduction in fuel efficiency and the improved emission reduction associated with E10.

Biodiesel (FAME)

To support an increase in blending levels in diesel it will be necessary for the “soft cap” of 1.7% referred to in the recast Renewable Energy Directive, specifically biofuels listed in Part B of Annex IX to be removed otherwise higher blending can only take place with crop based biodiesel, which is capped at 2% in Ireland and without the removal of the 1.7% e.c. cap it will force distributors to use the cheapest crop based alternative biodiesel, namely PME (palm oil methyl ester) which is unsustainable.

Consideration should be made to ensure that the waste feedstocks available in Ireland are converted into sustainable biofuels in Ireland and consumed on the island. Currently, a majority of the used cooking oil (UCO) and some Category 1 animal fats and all Category 3 non edible animal fats are being exported to other countries and as these feedstocks provide the highest GHG saving biofuels they should be referred to as a natural resource and therefore should remain in Ireland.

Consideration should also be given to permitting the processing of Category 3 non-edible animal fats into biodiesel. Ireland produces some 50,000 tonnes of non-edible Category 3 animal fats and these could be transformed into high GHG saving biodiesel. Presently this material is being exported to Finland whereby it is incentivised for use in biodiesel manufacturing by means of inclusion in their list of double counted feedstocks for HVO production.

Some €250 million in carbon taxes are collected annually in Ireland and this is set to increase incrementally over the next decade. A portion of these funds should be used to promote increased investment in indigenous biofuels either by means of another MOTR (Mineral Oil Tax Scheme), funded by carbon taxes or by allocating carbon tax funds collected to the carbon savings in biofuels produced in Ireland.

The Taoiseach, Mr. Leo Varadkar recently stated publicly that:

“All new revenues raised by new or increased carbon taxes in Ireland will be ringfenced to pay for coping with climate action.”

Source: Irish Times, Monday 23 September 2019.

- (f) What is the expected cost to consumers associated with increasing the blending levels?

The cost to the consumer can be considered to be negligible. With the biofuel obligation at 8% in 2018 the cost of ethanol blending was €0.014 compared to the pump price of €1.469 and the cost of FAME blending was €0.014 with an average diesel price of €1.389 in both cases less than 1% of the total pump price.

Increasing the ethanol blend to 10% (E10) will have a small cost to the consumer as ethanol is more expensive than gasoline (currently 6% more expensive), therefore, doubling the ethanol content will have a consequent affect on pump prices. As well as this, the lower energy content of ethanol will lead to a reduction in fuel economy, with the need to refuel more often.

Source: IPLA.ie, what is driving fuel prices.

Question 3:

The recast Renewable Energy Directive sets out that obligation schemes may operate on a volume, energy or greenhouse gas emissions basis. In order to better align the Biofuels Obligation Scheme with the recast Renewable Energy Directive (where targets, limits etc. are based on energy) and to ensure the operation of the scheme is not overly complex, it is intended to move from a volume-based obligation to an energy-based obligation.

The amount of fossil-based energy placed on the market in the transport sector by an obligated party (see below) will be multiplied by the biofuel obligation rate to determine the level of biofuel that must also be placed on the market.

When biofuel is placed on the market, a credit for the level of energy is created. Currently this takes the form of a certificate. When the scheme converts to an energy basis, it is proposed that this will take the form of a level of energy. The energy that is credited will be tradable between obligated parties as is currently the case.

Relevant section of the recast Renewable Energy Directive: Article 25(1)

(a) Do you consider the move to an energy-based obligation appropriate?

We do not consider the move to an energy-based obligation appropriate currently.

With respect to a volume or GHG based obligation ultimately it is up to the Irish Government on what it wants to achieve. If there is preference to maximise the use of waste-based biofuels, which are the most sustainable and provide the highest levels of GHG reductions then double counting is the most effective current solution and one that is used in a majority of EU member states.

If this is not a preference and where there is a significant agricultural lobby for crop-based biofuels, then the GHG emissions basis is better. However, on this basis there would be a move towards the cheapest crop-based biofuel, namely PME (Palm Oil methyl ester), which is considered to be unsustainable and this cannot be considered to be appropriate in the case of Ireland.

A further concern regarding GHG basis is that despite over a decade work on GHG calculations there remain significant disagreement on how to calculate individual GHG emissions. To date all that exists is through the ILCU regulations with high ILUC and low ILUC biofuels. There remain significant disagreements over GHG calculations and there is significant scope for fraud in the GHG system due to the difficulty in calculating the emissions reductions. As an example, The Netherlands had considered it previously but had a concern over the potential for massive fraud and considered that the system is not currently sufficiently developed to be relied upon. As well as this they believed that the volume-based system was better as by achieving the volumetric targets they automatically achieved the GHG targets.

As further examples with the introduction of the GHG system in Germany the use of waste based FAME fell by over 20% with a corresponding increase in the consumption of crop based FAME and in Spain, which had no double counting provisions in its biofuel regulations until recently over 93% of its FAME consumption came from palm oil, which is considered the least sustainable biodiesel and is expected to be phased out completely as a result of this.

The UK had also considered a move to a GHG basis but decided to remain with the volume basis as they were of the belief that it doubles the complexity of system on the authorities and the obligated parties.

An unintended consequence of a GHG basis is that if you improve GHG reductions too much it results in lower volumes of biofuels being blended. We consider that the best way is to have a volume-based obligation whereby the GHG savings can easily be calculated.

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A further point to consider is the EU Effort Sharing Regulation (ESR), which limits post 2020 national emissions of GHG in sectors not covered by the EU ETS (Emissions Trading Scheme), including waste, transport, buildings and agriculture and the blending of higher volumes of biofuels in the transport sector can contribute to the GHG reduction in the other non ETS sectors.

Question 4:

The recast Renewable Energy Directive must be transposed into law by mid-2021. It is planned to develop and implement the necessary legislative changes in advance of the deadline. It is important to provide certainty to fuel suppliers to allow them to prepare for the changes including sourcing supplies of biofuel. It is also intended to continue to operate on a calendar year basis. It is therefore intended that the Biofuels Obligation Scheme would continue to operate in its current form until the end of 2021 and the changes set out in this consultation would take place from the beginning of 2022. It should be noted that some minor changes (such as the reduction of carryover to 15% in 2020) will take place in the period prior to 2022.

(a) Do you consider the timing of changes to the Biofuels Obligation Scheme appropriate?

We consider the timing of the proposed changes to the Biofuels Obligation Scheme appropriate. Certainty is required in the industry through to 2030 not only to promote further investment in an indigenous biofuels industry but also to allow obligated parties to source sufficient supplies of sustainable biofuels.

4.2 Advanced Biofuel Obligation (including Biomethane)

Question 5:

The recast Renewable Energy Directive sets out a target of at least 0.2% renewable energy in transport sector to come from advanced biofuels in 2022, increasing to 1% in 2025 and 3.5% in 2030.

It is intended to create a secondary obligation for advanced biofuels. This will operate similar to the biofuel obligation. The amount of energy placed on the market in the transport sector by an obligated party (see below) will be multiplied by the advanced biofuel obligation rate to determine the level of advanced biofuel that must also be placed on the market.

The advanced biofuel obligation will be a sub-obligation and therefore advanced biofuels will contribute to meeting both the advanced biofuel obligation and the biofuel obligation.

When advanced biofuel is placed on the market, a credit for the level of energy is created. This will be recorded separately and will contribute to meeting both the biofuel obligation and the advanced biofuel obligation. This energy will also be tradable between obligated parties.

The increases in the advanced biofuel obligation rate will be as set out in the recast Renewable Energy Directive – i.e. 0.2% from 2022, increasing to 1% in 2025 and 3.5% in 2030.

The implementation of an advanced biofuel obligation is considered a key incentive for the introduction of biomethane as a fuel in the transport sector. This could lead to the production of biomethane from relevant feedstocks (such as the biomass fraction of mixed municipal waste and animal manure) and its use in CNG/LNG vehicles. Meeting the advanced biofuel obligation in this way would provide a market support for the introduction and use of biomethane in the transport sector.

Relevant section of the recast Renewable Energy Directive: Article 25(1); Part A of Annex IX

(a) Do you consider the approach to introducing an advanced biofuel obligation appropriate?

Although we consider that an advanced biofuel obligation to be appropriate, under the recast Renewable Energy Directive the commercial availability of advanced biofuels is not currently accessible, and this factor should be considered when applying mandatory trajectories. We consider it wise that a low level of obligation be introduced in 2022 and not before that date, to allow enough time for the further development of advanced biofuels.

(b) What biofuels do you envisage contributing to meeting this obligation?

Advanced biofuels are those as defined in Annex IX Part A of the recast RE-D. Regarding biodiesel the feedstocks that are available include POME and EPFB for biodiesel and Tall Oil/Forest Residue for conversion as HVO. HVO is not processed in Ireland, is not readily available and is extremely expensive compared to biodiesel. For ethanol, there is little availability of advanced ethanol and feedstocks such as bagasse, grape marcs/wine lees, straw and cellulosic materials are only available in very limited quantity.

Question 6:

The recast Renewable Energy Directive sets out that the target for renewable energy use in the transport sector includes road and rail transport. Currently, under the Biofuels Obligation Scheme, the obligation only applies to road transport. In order to align the scheme with the recast Renewable Energy Directive, it is intended to extend the scope of the obligation to include rail transport.
Relevant section of the recast Renewable Energy Directive: Article 27(1)(a)

(a) Do you consider the approach to include both the road and rail transport as obligated parties appropriate?

We believe that the inclusion of rail transport as obligated parties is appropriate. By including rail transport within the Biofuel Obligation, it will widen the use of biofuels further into the transport network which will have the effect of increasing the GHG emission reductions throughout the transport industry. As an example, rail transport has been successfully included in the United Kingdom within their obligation scheme, the RTFO (Renewable Transport Fuels Obligation) under their NRMM, non-road mobile machinery obligation since 2012.

Question 7:

The recast Renewable Energy Directive provides for Member States to exempt, or distinguish between, different fuel suppliers and different energy carriers when setting the obligation on the fuel suppliers, ensuring that the varying degrees of maturity and the cost of different technologies are taken into account. Member States may also exempt fuel suppliers in the form of electricity or renewable liquid and gaseous transport fuels of nonbiological origin (e.g. hydrogen produced from renewable electricity) from the advanced biofuel obligation.

It is intended, in order to incentivise the use of alternative fuels, to apply a reduced or zero obligation to specific fuels. This means there would be no, or a reduced, biofuel obligation and advanced biofuel obligation on specific fuels.

It is intended to categorise fuels as follows:

- No obligation: CNG, LNG, hydrogen, electricity

- Half obligation (i.e. an obligation is generated based on half the energy content of fuels placed on the market): No fuels
 - Full obligation: All other fossil-based transport fuels
- As technologies mature and costs reduce, fuels may have the level of obligation increased.
Relevant section of the recast Renewable Energy Directive: Article 25(1)

(a) Do you consider the approach to exempting certain fuels from the obligation to be appropriate?

We believe this approach to exempting certain fuels from the obligation to be appropriate at this time. To date there has been little commercial development on advanced biofuels and many of the technologies exist only in a laboratory environment and time needs to be given for these new and novel technologies to reach maturity and to be available for mainstream use.

4.4 Meeting the Obligation

Question 8:

The Biofuels Obligation Scheme currently operates by issuing certificates in respect of volumes of biofuel which are placed on the market. For each calendar year, an obligated party must hold sufficient biofuel obligation certificates to demonstrate compliance.

As set out above, it is intended to amend the scheme to operate on an energy basis. In place of issuing certificates, a credit will be provided corresponding to the level of renewable energy placed on the market. Each credit of energy will be categorised as one of the following based on the feedstock it was produced from:

- Advanced biofuel (Annex IX Part A)
- Used cooking oil and animal fats (Annex IX Part B)
- Food and feed crops
- All other

As biofuel (or biogas) is placed on the market, the total level of energy credited to each obligated party (or other entity that places such fuels on the market) will increase in the relevant category. Sufficient balances will be required across all four categories to meet the biofuel obligation and in the first category to meet the advanced biofuel obligation.

It should be noted that although some fuels may not generate an obligation (e.g. CNG, LNG etc.), suppliers who are placing biofuels (or biogas) on the market for use by such vehicles will be credited under the Biofuels Obligation Scheme.

To incentivise the use of renewable transport fuels in aviation and maritime, it is intended to credit biofuels supplied for use in the aviation and maritime sector.

To incentivise the use of alternative fuels, it is intended that renewable fuels of non-biological origin (including renewable hydrogen) and recycled carbon fuels will also be eligible for energy credits.

As the supply of electricity for suppliers will not generate an obligation and the measurement of such supplies would create a significant administrative burden, it is not intended to be obligated parties, it is not intended to provide any energy credit for the supply of renewable electricity to road or rail transport.

Relevant section of the recast Renewable Energy Directive: Article 25(1)

(b) Do you consider the approach to issuing energy credits appropriate?

We do not consider the approach to amending the Biofuel Obligation to be appropriate at this time.

Please see responses to Question 3, above.

Question 9:

The recast Renewable Energy Directive sets out that multipliers can be applied to biofuels produced from specific feedstocks. Multipliers can also be applied to renewable electricity supplied to road and rail transport when calculating compliance with the recast Renewable Energy Directive. The multipliers allow biofuel from specific feedstock to be preferred. They also allow adjustment for the greater efficiency of electric road and rail vehicles compared to fossil fuel equivalents. There may be an increased risk of fraud in the market in assigning multipliers to biofuels from specific feedstock which needs to be considered.

It is considered appropriate that biofuels (and biogas) for transport produced from feedstock listed in Annex IX of the recast Renewable Energy Directive (i.e. advanced biofuels and those produced from used cooking oil and animal fats) shall be considered to be two times their energy content. This is intended to apply when credit is provided in the Biofuels Obligation Scheme and when calculating compliance with the recast Renewable Energy Directive.

It is intended that, with the exception of fuels produced from food and feed crops, biofuels supplied for use in the aviation and maritime sectors shall be considered to be 1.2 times their energy content. Where such fuels are produced from feedstock listed in Annex IX, the 2 times multiplier shall also apply (i.e. a 2.4 times multiplier would apply). This is intended to apply when credit is provided in the Biofuels Obligation Scheme and when calculating compliance with the recast Renewable Energy Directive.

It is intended to apply a multiplier of 4 times and 1.5 times the energy content for renewable electricity supplied to road and rail transport respectively when calculating compliance with the recast Renewable Energy Directive.

Relevant section of the recast Renewable Energy Directive: Article 27(2)

(a) Do you consider the approach to applying multipliers to be appropriate?

Yes we consider this approach to be appropriate.

(b) Do you consider the approach to applying multipliers impacts the risk of fraud?

We consider that applying multipliers may have some impact on the risk of fraud, however, in the case of the waste based biodiesel industry specific measures are being taken both within the industry, with increased auditing requirements under the approved voluntary schemes, a database and technical works on a scientific test to identify specific biofuel composition and through the recast Renewable Energy Directive, with the establishment of an industry wide database by 2021 which will directly address any potential fraud from scheme hopping and misstating volumes of sustainable waste based biofuels.

4.5 Limits on Specific Biofuels

Question 10:

Under the recast Renewable Energy Directive and the subsequent delegated act, biofuel produced from palm oil is classed as being high risk from an indirect land use change perspective. Further feedstocks may be similarly classed in future.

Until 2023, Member States should not exceed the level of consumption in 2019 of any biofuels considered to be high risk. From 31 December 2023 until 31 December 2030 at the latest, the limit is to be gradually decreased to 0%.

Given Ireland has very limited use of biofuels produced from palm oil and the impacts in relation to indirect land use change, it is intended that a limit of 0% will be implemented for all biofuels considered to be high risk from an indirect land use change perspective.

While it will still be permitted to supply these biofuels, no credit will be given in the Biofuels Obligation Scheme and therefore there will be no incentive for suppliers to provide such fuels.

It is proposed that this limit would take effect from 2022 along with the other intended changes to the Biofuels Obligation Scheme.

Relevant section of the recast Renewable Energy Directive: Article 26(2)

- (a) Do you consider the approach to biofuels produced from feedstocks that are considered a high risk (from indirect land use change perspective) appropriate?

We consider this approach not only to be appropriate but essential to phase out biofuels that are classed as high risk from an indirect land use change perspective.

Question 11:

The recast Renewable Energy Directive includes a limit on biofuels produced from food and feed crops. The maximum limit in energy terms which is likely to apply for Ireland for these biofuels is 2% based on current use of these biofuels.

The majority of biofuel currently supplied to petrol vehicles is produced from food and feed crops. It is intended that the level of biofuel use in petrol vehicles would double from 5% to 10% and therefore it is intended to set the limit at 2% to provide for this growth.

As the limit set will be five percentage points less than the maximum of 7%, the overall target that applies to Ireland of 14% will reduce to 9%. This reduction only applies when measuring compliance with the recast Renewable Energy Directive. As set out above, the obligation will be set to ensure the overall 14% target is achieved.

When a biofuel produced from food and feed crops is placed on the market, a credit for the level of energy is created. This will be recorded separately to other biofuels or advanced biofuels. While this energy will contribute to meeting the biofuel obligation, it will be limited to 2% of the energy placed on the market (i.e. the energy used to calculate the obligation).

The energy credit for biofuel produced from food and feed crops will be tradable between obligated parties. However, the classification will remain, and it will be counted within the 2% limit for the purchaser of the credit.

Relevant section of the recast Renewable Energy Directive: Article 26(1)

- (a) Do you consider the approach to biofuels produced from food and feed crops appropriate?

We consider this approach to be appropriate. It is necessary to set the crop-based biofuel limit to 2% to allow for the natural growth in ethanol usage from an E5 to E10 as ethanol is produced from food and feed crops.

We also agree with the intention to ensure the overall target of 14% is achieved.

Question 12:

The recast Renewable Energy Directive includes a **1.7% limit** on biofuels produced used cooking oil (UCO) and animal fats that can be counted for compliance with the target of at least 14% renewable energy in transport sector by 2030. A multiplier of 2 can apply to such biofuels (see below) which would lead to a maximum contribution of 3.4% towards the target of 14%.

It should be noted that the recast Renewable Energy Directive does not appear to place any restriction on the contribution such biofuels can make to the overall level of renewable energy in Ireland or emission reduction from the transport sector.

As set out above, Ireland can comply with the transport sector target in the recast Renewable Energy Directive by achieving a level of 9% by 2030. Advanced biofuels are expected to contribute 1.75% on an energy basis (equivalent to 3.5% with a multiplier of 2 applied), biofuels from food and feed crops could contribute up to 2%, and UCO and animal fats could contribute up to 1.7% (equivalent to 3.4% with a multiplier of 2 applied). That would lead to 8.9% of the 9% target before electric vehicles and electric rail are counted.

Given the restriction only applies to the transport sector target, how such a limit will be included in the Biofuels Obligation Scheme will need to be considered carefully.

In addition, Member States (where justified) can modify the 1.7% limit taking into account the availability of feedstock. Any such modification shall be subject to the approval of the European Commission.

In 2018, of the 216 million litres of biofuels placed on the Irish market, 162 million litres were biodiesel produced from UCO or animal fats. This represented over 3% in energy terms of the energy used in the transport sector in 2018 and thus is in excess of the 1.7% limit. Given the level of biofuel used from these feedstocks in Ireland, consideration is being given to seeking the European Commission's approval for a higher limit. Such a request to the European Commission would need to be evidence-based and focus on the availability of feedstock.

Relevant section of the recast Renewable Energy Directive: Article 27(1)(b)

- (a) What approach do you think should be adopted in relation to the 1.7% limit on biofuels produced from UCO and animal fats?

We consider it appropriate for the 1.7% limit, often referred to as a “soft cap” or “flexible cap”, should be removed completely as without this it will not be possible to reach the overall targets. Feedstocks in Part B, Annex IX, namely Category 1 animal fats and used cooking oil provide the highest GHG savings in today’s marketplace.

Taking 2018 fuel sale statistics as a base reference, total gasoline and diesel sales amounted to 4.433 billion litres (1.041 billion litres of gasoline and 3.392 billion litres of diesel).

Source: NORA.ie statistics

An 11% inclusion rate for 2020 will require a total of 487 million litres of biofuels. Initially if E5 remains the predominant gasoline blend then a total of 52 million litres of ethanol will be required, equivalent to 1% energy basis. On this basis 49 million litres of crop-based biodiesel will be permitted representing an additional 1% energy basis leaving the remaining biofuel requirement at 383 million litres, or 192 million litres of double counted wasted based biodiesel which is equivalent to 4% energy content, well above the 1.7% cap.

In the event that E10 becomes the established gasoline blend then a total of 104 million litres of ethanol would be required, equivalent to 2% energy basis. On this basis the remaining biofuel requirement at 432 million litres, or 216 million litres would have to consist of double counted wasted based biodiesel which is equivalent to 4.4% energy content again well above the 1.7% cap.

In any event if the targets are to be reached and the NCAP targets identified by Ireland will

exceed those under the recast Renewable Energy Directive, then it is imperative that the 1.7% cap be either removed or increased sufficiently to ensure that Ireland maximises its use of the highest GHG saving biofuels to decarbonise the transport industry.

- (b) Do you consider it appropriate to seek the European Commission's approval for a higher limit and, if so, what evidence would you suggest be used to support such a request?

The following evidence should be used to support a request to increase the "soft cap" to the EU Commission.

1. **Availability:** One of the justifications relates to the Commission's reference to availability of feedstocks. There is no accepted definition of availability and no clarity of definition within the Commission. It is open to interpretation. A question arises as to global or local availability.

Local availability: this does not stand up to scrutiny as there is nothing within the recast Renewable Energy Directive that defines it as only the locally available feedstocks and in the event that this was an interpretation where there was a shortfall it would only lead to sourcing food and feed crop based biofuels.

A request based on local availability which could be defined as sourced exclusively from an EU Member State would go against the free movement of goods, one of the four EU Single Market fundamental freedoms.

Global availability: The feedstocks included in Part B Annex IX are traded globally. Currently there is enough availability of feedstocks on a global scale and more is becoming available as collection methods improve.

Greater incorporation of waste biodiesel is actually driving the development of professional and household collection globally, thus taking UCO, a noxious carcinogenic waste, out of the food and feed chains in third countries.

Regarding Ireland in particular, in 2018 162 million litres of biodiesel comprised of feedstocks from Part B Annex IX was consumed and therefore this automatically proves its availability. This consumption represents 4% energy content and demonstrates Government's policy to support the most sustainable biofuels.

2. **1.7% Cap:** Maintaining the cap in place will automatically reduce the volumes of waste based biofuels consumed in Ireland and with little availability of advanced biofuels, obligated parties will be forced to source the next cheapest biofuel, namely food and feed based crop biofuels, particularly PME (Palm Oil methyl ester), which is not sustainable. Alternatively, obligated parties would have to source non waste and non-crop biofuels such as PFAD/Category 3 and HVO, which is currently too expensive for the consumer. Overall it would be nonsense to try to promote these "other" biofuels over well-established waste-based biofuels.
3. **Fraud:** One of the concerns within the Commission was in relation to fraud and that is one of the reasons that the "soft cap" was introduced. Originally it was considered that the cap would remain in place until such time as the Commission had established an EU wide database, which would mitigate the presence of fraudulent activity. Within the recast Renewable Energy Directive an EU wide database will be in place in the second half of 2021 which will directly address any potential of fraud either from scheme hopping or exaggerating volumes of sustainable biofuels.

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As well as this, within the EU waste-based biodiesel industry, represented by the EWABA organisation measures are already being put in place to mitigate fraud, namely

- a) **The EWABA Standard of Transparency** – The majority of EU waste biodiesel producers have identified a series of improvements to certification schemes applicable to key elements of the biodiesel production chain: point of origin/collection point, production/storage facility/, trading entity. While EU waste biodiesel producers have pledged to abide by these improvements via auditable requirements, existing certification schemes have already started to adapt their systems and terms of use to incorporate the EWABA modifications. The most widespread certification scheme for waste biodiesel in the EU, ISCC, has adopted several of the EWABA recommendation and is working on further improvements. Other certification schemes such as RSB, Redcert and 2BSBS are preparing updates in this direction. In addition, the European Commission is preparing an overhaul of the EU certification schemes to be adopted in 2021.

- b) **Pan-Industry work on a single EU database** – the biofuels industry at large is currently working on bringing to the market a database sooner than the EU Commission's initiative due in mid-2021. A series of working groups gathering EU associations like EBB and EWABA and national associations such as MVO and NVDB from the Netherlands and BDV and MVaK from Germany, among others, together with representatives from key corporate players, have been taking place over the second half of 2018. Emanating from this work two pilot tests of possible databases with the participation of large fuel suppliers, biodiesel producers and certification schemes RSB and ISCC are to be concluded before the end of the year.

- c) **Development of a UCO testing method** – the industry has recently presented a UCO testing method allowing for the differentiation between actual waste cooking oil and virgin vegetable oils in any feedstock blend to the European Commission. Following more than 500 preparatory tests and an equal number of blind testing the method has proven highly successful (with less than 1% failure rate). A patent application has been filed and the industry is currently working to bring a European standard to the market as soon as possible.

These tangible initiatives make a soft limitation conceived as an “anti-fraud” measure redundant. The fact that the limitation is flexible itself places a fundamental question on its rationale, as it was in fact the result of horse-trading during the REDII negotiations.

4. **UK RTFO:** The revised RTFO, which regulates biofuels in the UK to 2032 has no limit on the use of waste-based biofuels and is actively promoting their use as they are the highest contributor to a reduction in greenhouse gas emissions in the transport sector.

4.6 Carryover of Credits

Question 13:

The Biofuels Obligation Scheme allows for up to 25% of the obligation in any one year to be met using certificates carried over from either of the previous two years. This limit is in the process of being reduced to 15% from 2020.

It is intended to retain this carryover system in order to provide suppliers with a level of flexibility and support the creation of new supplies of biofuels. However, changes will be necessary due to the intention to move from a volume-based obligation to an energy-based obligation. The introduction of a target for advanced biofuels and limits on biofuels produced from food and feed crops will need to be catered for.

It is intended that where an obligated party has, after trades with other parties, an excess credit of energy over and above the level required to meet its obligation, it can be transferred to the following year provided that:

- the excess credit of energy does not include any energy in excess of the 2% limit on biofuels produced from food or feed-based crops (i.e. if an obligated party exceeds the 2% limit, this credit of energy cannot be carried to the following year);
- the excess credit carried into the following year can only be used to meet the biofuels obligation and not the advanced biofuels obligation; and
- the excess credit carried from a given year cannot exceed 15% of the obligation for that year. The treatment of carryover of energy from biofuels produced from used cooking oil and animal fats will need to be examined in the context of the 1.7% limit (see above).

At the end of 2021 it is intended that obligated parties will be permitted to carryover certificates as follows:

- a maximum of 15% of the certificates that a supplier was required to have in 2021 may be carried into 2022; and
- each certificate will be credited with 30 MJ energy²⁵.

(a) Do you consider the approach to carryover appropriate?

Whilst we consider the approach to carryover appropriate, however we do not consider that the move to an energy-based system should be implemented at this stage due to the reasoning given above in our response to question 3 above

4.7 Compliance

Question 14:

There has been a very high level of compliance with the Biofuels Obligation Scheme. This is ensured through the requirement to pay a compliance fee (referred to as a 'buy-out charge' in legislation) when an obligated party does not meet its obligation. Currently, the fee paid by obligated parties who fail to meet the obligation is €0.45 for each certificate (equivalent to a litre of biofuel) below the required level. This is equivalent to €0.015 per MJ of energy (assuming an average of 30 MJ per litre/certificate as above). There have been very limited examples of this fee being paid to date due to the high level

of compliance.

The level of the fee has been set to ensure it is more cost effective for an obligated party to increase the level of biofuels as opposed to paying the compliance fee. Given the future increases in the obligation rate, the marginal cost of supplying more biofuel to the market is expected to increase. It is therefore intended to increase the fee to €0.02 per MJ in 2022, €0.03 per MJ in 2025 and €0.04 in 2030.

The cost of supplying advanced biofuels is expected to be greater than that of other biofuels. Accordingly, it is intended to see the fee for non-compliance with the advanced biofuel obligation to be twice that for the biofuel obligation (i.e. two times the monetary levels set out above for each MJ of energy).

(a) Do you consider the approach to setting the level of compliance fee (or 'buy out charge') to be appropriate?

Whilst we agree that the "buy-out charge" needs to be increased, we believe that the move towards the level of €0.03 per MJ should be implemented much sooner than 2025, even before 2022.

The principle reason is that the existing level of €0.45 for each certificate is equivalent to US\$572 per tonne (i.e. .45 X 1136 (biodiesel density) X 1.12 (current US dollar foreign exchange rate). Notwithstanding this, HVO pricing is currently at a premium well above this and in the event that HVO is required to make up any shortfall in physical blending then the obligated party may decide to pay the "buy-out charge" rather than comply with the Obligation, which was never the intention of the Regulations. This defeats the purpose of having a biofuel obligation.

Question 15:

In the event of a significant oil/biofuel supply disruption, the requirements under the Biofuels Obligation Scheme continue to apply. If such a disruption lasted for a prolonged period, it is possible that obligated parties may not be able to meet the requirements of the scheme.

There is currently no scope for any adjustment to the Biofuels Obligation Scheme to take account of such a situation. Fuel suppliers would therefore be liable for compliance costs in not meeting the obligation.

Therefore, there is some merit in providing the Minister scope to adjust the obligation under the scheme in the exceptional circumstances. However, any such adjustment, while providing flexibility to obligated parties, should not impact the overall obligations of the scheme.

It is therefore considered appropriate that the Minister may, in the event of a significant disruption that prevents the supply of biofuels to the market, provide obligated parties flexibility in compliance. This would be achieved by allowing obligated parties the option to make up for any shortfall in a specified calendar year in the following calendar year in place of paying compliance costs.

(a) Do you consider the approach to dealing with a potential supply disruption appropriate?

We consider this approach to dealing with a potential supply disruption to be appropriate.

4.8 Heat Sector

Question 16:

The Biofuels Obligation Scheme is currently limited to the transport sector. In the heating sector, there is a high use of fossil fuels, including oil and natural gas, which could potentially be blended with renewable fuels to reduce emissions in the heat sector.

Responses to the previous consultation of the Biofuels Obligation Scheme highlighted a number of technical challenges to using bioliquids in the heat sector (e.g. a large amount of oil used in the heat sector is stored in tanks outside homes and businesses over long periods of time which may cause issues).

Notwithstanding the input received to date, the introduction of such fuels in the heat sector can bring significant decarbonisation benefits and therefore continues to be kept under consideration.

- (a) What is your opinion on the potential for an obligation scheme (similar to the Biofuels Obligation Scheme) in the heat sector?

We believe that it is now the appropriate time to implement an obligation scheme on the heat sector (similar to the Biofuels Obligation Scheme). We are supportive of decarbonisation, but we believe that the current proposal from Government's Climate Action Plan to install 600,000 heat pumps in Irish homes by 2030 is neither feasible nor cost effective. Heat pumps are not suitable for many homes, particularly older or poorly insulated homes in rural areas and the costs associated on renovating existing homes can be of the order of €15,000 to €60,000, as over 90% of off-grid homes are below BER-1 rating. Although there are grants available, €3,500 for homeowners to install a heat pump it does not apply for the replacement of a fossil fuel boiler. Over 40% (680,000) homes in Ireland currently rely on liquid fuels and therefore switching to a biofuel would reduce the cost and level of intervention needed, compared to heat pumps. We believe bio-liquid fuels offer an innovative solution for off-grid homes to decarbonise, which is fair, cost effective for consumers and delivers carbon savings far in excess of the proposals to move 170,000 liquid fuelled homes to heat pumps as outlined in the current DCCAE strategy. We believe that waste-based biofuels, especially distilled biodiesel, provides a more realistic and readily available solution to provide significant carbon emissions reductions in the heat sector.

Source: OFTEC.ie

The Biofuels Obligation Scheme, launched in 2010 has provided significant CO₂ savings within the transport industry and is often referred to as the "invisible electric car" due to the fact that it exists, it has operated for a significant period of time, it was easy to roll out as there were no technical issues surrounding blending with fossil fuels.

By introducing a decarbonised fuel (bio-kerosene), households will not have to renovate their homes or install expensive technology and current heating systems can be easily adapted to run on a cost-effective biofuel solution.

All greenhouse gas emissions that are not from companies in the ETS are called non-ETS emissions. Non-ETS emissions include greenhouse gas emissions from homes, cars, small businesses and agriculture. These are often collectively called the non-ETS sector.

Non-ETS emissions are important because each country in the EU has mandatory targets to reduce non-ETS emissions in 2020 and 2030. Ireland's target for 2020 is for non-ETS emissions to be 20% lower than they were in 2005. Currently we are on track to be just 1% lower.

Source: seal.ie

- (b) What do you see as the technical barriers to introducing such a scheme?

We believe the principal technical barrier remains the storage facilities as many storage tanks are located externally and are generally not insulated, therefore they are exposed to the elements for some period. Notwithstanding this, provided that the biodiesel is of sufficient quality, namely, it is distilled, has ultra-low monoglyceride levels and low water levels then there should

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not be any unsurmountable technical barriers to introduce such a scheme.

(c) If a heat obligation scheme was to be introduced, what level of obligation (e.g. in percentage or energy terms) would be appropriate?

Initially we believe that a 5% to 10% blend would be appropriate, and this would be expected to deliver an 8% reduction in CO2 emissions from the liquid home heating sector.

4.9 Additional Input

Question 17:

In addition to the specific questions asked in this consultation, your input is invited in relation to the development of the Biofuels Obligation Scheme for the period 2021 to 2030 including the implementation of the elements relating to renewable transport fuels in the recast Renewable Energy Directive.

Overall Green Biofuels Ireland Ltd is fully supportive of the continued development of the Biofuels obligation Scheme for the period 2021 to 2030.

The goal of our National Climate Action Plan has to be not only a reduction in GHG emissions in the transport sector but also a reduction in fossil fuel usage and the reliance on imported fuels.

Biofuels play a significant role in achieving these targets and the GHG savings achieved can be offset against other non-ETS sectors, under the EU Effort Sharing Regulation.

Ireland is not on track to meet its 2020 targets or to decarbonise its economy by 2050, according to the Climate Change Advisory Council. New figures from the Environmental Protection Agency (EPA) show greenhouse gas emissions increased by 3.5% last year to 61.19 million tonnes of CO2 equivalent.ⁱ Within the transport industry emissions have increased by 3.7% in 2016 and 13% in the last four years. This is driven by economic and employment growth and shows no sign of abatement in the short term. The Council has warned that if Ireland does not introduce major new policies and measures it will miss its legally binding, 2020 targets resulting in large EU fines, estimated to be up to €455 million. Ireland is the worst performing country in Europe when it comes to taking action to combat climate change and is now 49th out of 56 countries ranked in the 2018 Climate Change Performance Index, which focuses on the world's worst countries for emissions.ⁱⁱ

Taoiseach, Leo Varadkar recently stated that the country was not meeting its climate change targets at present and failure to reach the targets would lead to significant fines. He also stated that he would rather spend money now on meeting Ireland's commitments than on fines from 2020 onwards.ⁱⁱⁱ

Together with the low uptake in electric vehicles in Ireland, the need to meet binding emission reduction targets and a lack of any alternative, it is imperative that the biofuel obligation rate continues to increase in line with the Departments consultation document. Sustainable biofuels provide an existing and long-term solution to reducing carbon emissions in the transport sector as well as providing energy security and reducing fossil fuel consumption in Ireland. Electric vehicles will make a contribution, however, at this time it is unlikely to be significant by 2030. Increasing the obligation rate to 12% in 2021 and maintaining it at that level thereafter will provide investment certainty for further development of the biofuels industry in Ireland, producing sustainable biofuels from a significant amount of locally available feedstocks. The cattle kill in Ireland for 2017 was 1.75 million head, an increase of 6.4% over the previous year.^{iv} This provides sufficient feedstock to provide an Irish biofuels industry with in excess of

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100,000 tonnes of animal fats (Category 1, 2 & 3), to manufacture biodiesel, which, coupled with the availability of used cooking oil, amounting to approximately 20,000 tonnes would provide 120,000 tonnes of indigenous waste based feedstocks, equivalent to 240,000 tonnes of compliance and providing 360,000 tonnes of GHG emission reductions annually. As Irish production has only reached 45,000 tonnes this will lead to increased capacity in Ireland.

To achieve the targets as laid out in the recast Renewable Energy Directive and to attain the targets set out under the Irish National Climate Action Plan, it will be necessary to maintain focus on biofuels as a means of reducing emissions within the transport sector.

To that end it will be necessary to implement the following:

1. Removal of the 1.7% “soft cap” for Part B, Annex IX feedstocks, otherwise there will be a reduction in the energy content these biofuels contribute, currently 4% e.c. with a corresponding increase in GHG emissions in transport.
2. An element of the carbon taxes collected must be ring fenced to further develop an indigenous biofuels industry and to promote the technological advancement of biofuels produced from feedstocks in Part A, Annex IX.
3. Consideration should be given for the use of Category 3 animal fats in biodiesel production in Ireland. Presently, all Category 3 animal fats are exported to Finland, whereby they are processed into HVO biodiesel. HVO is an expensive process and the resultant product, Hydrogenated Vegetable Oil, which is double counted in Finland, is also considerably more expensive than any other biofuels available in the marketplace. Permitting the use of Category 3 animal fats in biodiesel prevents not only the export of a potential “natural resource” but would also reduce the cost of biofuels to the consumer.
4. Immediately launch a consumer awareness program to facilitate the roll out of E10 as soon as possible.
5. Increase the “buy-out” charge in 2020 to €0.03 per MJ, otherwise obligated parties will have a choice on whether to blend more expensive HVO or pay the “buy-out” charge, which is less than the cost of HVO.

ⁱ <https://www.irishtimes.com/news/environment/climate-change-advisory-council-strongly-criticises-government-plan-on-climate-1.3316390> and <https://www.irishtimes.com/news/environment/serious-rise-in-irish-greenhouse-gas-emissions-figures-show-1.3306961>.

ⁱⁱ <https://www.irishtimes.com/news/environment/Ireland-ranks-worst-in-europe-on-climate-change-index-1.3292686>.

ⁱⁱⁱ <https://www.irishtimes.com/news/ireland/irish-news/Ireland-faces-fines-in-two-years-if-climate-change-targets-missed-varadkar-1.33455235>.

^{iv} <https://www.bordbia.ie/industry/farmers/pricetracking/cattle/pages/supplies.aspx>