

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 understand that in order to achieve GHG targets, a 10% and 12 % volume should be reached. This is without the double counting. Taking into account the relatively large share of UCO biofuels in the blending shares which will partly have to be replaced, this seems a reasonable share.

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

- Linear increase is an appropriate method of increasing the share of biofuels and providing investor security.
- It should be considered to prolongue the biofuels mandate beyond 2030. This will be necessary especially to draw investments into new technologies such as production of RFNBO's, and Carbon Recycle Fuels. Long term perspective and introduction of new technologies and fuels will provide more flexibility and thus lead to more cost effective way of meeting the mandates and Paris GHG reduction targets.
- The advanced biofuels mandate should also be adjusted at least every two years in order to ensure a consistent growth towards fulfilling the 2022, 2025 and 2030 mandates.

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?

- Increasing levels of E10 require an increase of advanced alcohols. Besides ethanol, advanced bio-methanol is an alternative alcohol to be used in E10.

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

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

- A20: Vehicles capable of using E10 are also capable of using M10, M15 and A20 (20% alcohol; 15% methanol / 5% ethanol). These fuels should also be allowed, since they allow for high blend biofuels. Italy has been the first country to introduce A20 into the market.
- E10; The definition of E10 must allow for different alcohols to be used. Alongside ethanol, bio-methanol is a biofuel that can play a crucial role in fulfilling the mandates. Through fermentation / gasification numerous Annex IX, A feedstock can be used for the production of an advanced biomethanol. This offers flexibility, and a cost-effective manner to comply with the advanced mandate.

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

- Methanol is sufficiently available. Current bio-methanol capacity is approximately 400.000t/annum. With other plant projects in Europe and capacity increase in existing plants, volumes are expected to increase significantly up to 2030. Also, methanol can be made of various low carbon feedstock: Annex IX, A feedstock, Renewable Hydrogen (for E-methanol) and use of recycled plastic and or CO₂ (Carbon Recycle Fuels).
- Diversification of feedstock for low carbon fuels (both renewable as circular) can contribute to the necessary increased availability.
- Bio-methanol and bio-MTBE are readily available liquid fuels to meet RED II targets.

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

- Allow for different fuel types and high blends.

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

- Main use of fuel in Ireland is diesel. It is likely that diesel prices will rise due to higher biodiesel costs. (cap on UCO and palm and increasing demand for HVO) while petrol prices will drop due to lower ethanol and bio-methanol costs.

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?

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 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?

- Yes, the only consideration could be to introduce the biofuels advanced mandate in 2021 (and give clarity on the high in 2020) as is set in the RED II. Since a minimum share of advanced biofuels of 0,5% in 2020 is already part of the RED (iluc Revision) this would not require major changes

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 biofuels²² 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.

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

- Yes, an advanced biofuels mandate is necessary to create investor security. The mentioned 0.2% in 2022 however is too low to form an incentive (with or without Double counting). The RED envisaged contribution of advanced in 2020 is already set at 0.5%.

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

- Besides the biomethane mentioned, bio-methanol will play an important role in meeting the obligation. Advanced biomethanol can be made from the same feedstock as biomethane.

Biomethanol can be blended into the existing gasoline (and biodiesel) pool. Cars and infrastructure are available to put large volumes of advanced biomethanol into the system.

- (bio)methanol is a very flexible fuel. It can be used either for direct blending (high blends, low blends) in a Direct Methanol Fuel Cell (DMFC) functioning as a range extender for Electric driven ships and cars. It can be made of a diverse range of feedstock: (green) Hydrogen, CO₂ (CCR), Recycled Carbons (Plastics), biogenic (advanced) wastes and residues.
- (Bio) methanol has low PO_x, SO_x, and particle matter (p.m.) emissions and contributes to local air quality. It meets the requirement for shipping (ECA's and NO_x, SO_x regulation) and is therefor also suitable for use as a marine / inland shipping fuel.
- Bio-methanol and Renewable methanol (green Hydrogen) can have a high GHG reduction.

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.

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

- The inclusion of rail transport will not lead to uptake of more biofuels but is expected to only replace the credits based on biofuels by credits based on electricity. Inclusion will therefore not lead to increased GHG reduction. (the Electricity used will not be counted for the RES T target, but for the RES E (overall) target.)

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.

Members States may also exempt fuel suppliers in the form of electricity or renewable liquid and gaseous transport fuels of non-biological 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.

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

- this depends on whether the total required volume of Renewable Fuels to meet the targets stays the same. (The denominator should not change).

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?

- Overall yes. I agree on not providing any energy credit for the supply of electricity to road or rail transport. (see remark question 6)
- Providing credits to aviation and maritime is also welcomed. However, since these are voluntary markets an additional incentive, for example the multiplier of 1.2 from the RED II, should be considered. Since it is expected that this will be small volumes in the beginning, the effect on real volumes and thus GHG savings will be limited. If uptake is larger than foreseen, blending mandates could be adjusted in 2023, in line with the provision of the RED II.
- RFNBO's and CRF are relevant as extending scope of feedstock to be used to reduce GHG emissions. They should be included in the system. For RFNBO's based on renewable electricity and electrolysis, additional measures could be considered due to the innovative technologies and high production costs. (For example: a multiplier, or additional subsidy) The RED II foresees in the possibility to included additional incentives for such costly / innovative renewable fuels.

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?

- Multipliers should only be used for incentivizing renewable fuels that would otherwise not be used: this can be the case in
 - 1) voluntary markets such as shipping and or aviation or
 - 2) biofuels with higher production costs that have beneficial characteristics (such as type of feedstock, wastes,). Amongst the latter could be considered advanced biofuels and RFNBO's. Demand for advanced biofuels is guaranteed by the 3.5% mandate (2030). Multiplier could be considered for use of advanced biofuels outside the mandate. (a multiplier within the mandate would only reduce the volumes needed). Production costs of RFNBO's based on renewable electricity and electrolysis are still very high. A multiplier could cover (part of) the additional costs and thus incentivize the production and use of these fuels.
- Use of multipliers for electricity in road or rail transport should not be used. Electricity should not be taken into account for creating tickets (see previous comment) Electricity and renewable fuels should not compete with each other but with the remaining predominant share of fossil fuels.

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

- There could be some risk in using the multiplier for HVO in shipping. This will depend on the feedstock of the HVO. Since potentially big volumes could be blended into this sector using UCO.

Question 10:

Under the recast Renewable Energy Directive and the subsequent delegated act²³, 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.

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

- **Yes, it is necessary to address the concerns expressed in public debate. Biofuels used must contribute to GHG and not have adverse effects on biodiversity.**

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?

Question 12:

The recast Renewable Energy Directive includes a 1.7% limit on biofuels produced used cooking oil (UCO) and animal fats²⁴ 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.

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

(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?

- **No, with current investigations into fraudulent use of UCO, it does not seem appropriate to seek approval for a higher limit.**

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?

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?

- For advanced biofuels, the amount of certificates that can be bought out by fees should be limited. For example a maximum of 50% of the mandate can be fulfilled by paying the buy out fee.

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?

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?

(b) What do you see as the technical barriers to introducing 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?

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.