



Biofuels Obligation Scheme

**Consultation on 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**

September 2019

1 Overview

The Department of Communications, Climate Action and Environment is seeking views in relation to the development of the Biofuels Obligation Scheme for the period 2021 to 2030. This includes the implementation of the biofuel elements of the recast Renewable Energy Directive¹.

Input is sought on a number of questions including the scope of the obligation, the level of renewable energy in the transport sector in 2030, the trajectory to that point, methods of meeting an increased obligation, the introduction of an additional obligation for advanced biofuels, technical challenges, cost impacts and the potential to move to an energy basis for calculating the obligation.

This consultation will help inform changes that will be made to the Biofuels Obligation Scheme and the implementation of the biofuel elements of the recast Renewable Energy Directive.

Submissions may be made by writing to:

Biofuels Consultation
Heat & Transport Energy Policy
Department of Communications, Climate Action and Environment
29-31 Adelaide Road
Dublin 2
D02 X285

Or by email to: biofuel.obligation@dccae.gov.ie

Submissions should follow the questions set out in Section 4.

Please note that responses to this consultation are subject to the provisions of the Freedom of Information Act 2014 and Access to Information on the Environment Regulations 2007-2014. Confidential or commercially sensitive information should be clearly identified in your submission, however parties should also note that any or all responses to the consultation are subject in their entirety to the provisions of the FOI Acts and may be published on the website of the Department of Communications, Climate Action and Environment.

The public consultation will close at **5pm on Friday 15 November 2019**.

2 Objectives

The objectives of the Biofuels Obligation Scheme for the period 2021-2030 will be:

- to reduce greenhouse gas emissions in the transport sector and contribute to meeting Ireland's 2030 emission reduction target;

¹ Directive (EU) 2018/2001

- to increase the overall level of renewable energy used in Ireland that will contribute to meeting the overall European Union target of 32% renewable energy by 2030; and
- to meet or exceed the renewable energy targets set out in the recast Renewable Energy Directive for the transport sector in Ireland.

3 Background & Policy

3.1 Climate Action Plan

The Climate Action Plan², which was published in June 2019, sets out a pathway to tackle climate disruption and reduce Ireland's greenhouse gas emissions. A range of policy actions are set out in the plan which include:

- to carry out a public consultation on the development of the Biofuels Obligation Scheme in the period 2021-2030;
- blending levels to reach 10% by volume in petrol and 12% by volume in diesel on average by 2030 with the level of biofuels increasing incrementally from current levels;
- to examine the addition of an advanced biofuel obligation which could increase the supply of biomethane to the transport sector;
- to set out the planned level of biofuel use in 2030, the trajectory from 2021 to that point, and planned changes to the Biofuels Obligation Scheme as part of the National Energy and Climate Plan (which is due to be completed by the end of 2019); and
- to transpose the biofuel elements of the recast Renewable Energy Directive including the changes to the Biofuels Obligation Scheme required to meet the planned level of biofuel use in 2030.

This consultation will inform the policy actions set out above.

3.2 Renewable Energy Directive

The 2009 Renewable Energy Directive³ set Ireland a target of 16% of all energy consumption to be from renewable sources by 2020. Within this target all Member States were required to ensure that at least 10% of the energy in the transport sector was from renewable sources.

There are two principal mechanisms which can be deployed to increase the renewable energy share in the transport sector. One is through increased electrification of the transport sector with the second being the increased use of renewable fuels, including biofuels.

Provisional figures for 2018 indicate Ireland has reached a level of 7.2% of renewable energy in the transport sector as calculated under the 2009 Renewable Energy Directive. SEAI has published national energy projections which indicate that Ireland will reach its 10% target by 2020⁴.

² <https://www.dccae.gov.ie/documents/Climate%20Action%20Plan%202019.pdf>

³ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0028&from=EN>

⁴ https://www.seai.ie/publications/2019-04_SEAI2019ProjectionsReport_Final.pdf

The deployment of biofuels, mandated through the Biofuels Obligation Scheme, has been the primary mechanism to increase renewable energy share in transport. It is projected that the use of biofuels will contribute over 9% of the 10% renewable energy target in the transport sector by 2020.

The recast Renewable Energy Directive⁵ was adopted in December 2018. This updates the 2009 Renewable Energy Directive for the period 2021 to 2030. The changes include a new target on all Member States of 14% renewable energy in transport by 2030. The recast Renewable Energy Directive also introduces a new sub-target for the deployment of advanced biofuel and, for sustainability reasons, limits the amount of energy which can be counted towards renewable energy targets in the transport sector for biofuels produced from specific feedstocks.

3.3 Biofuels Obligation Scheme

The Biofuels Obligation Scheme was introduced in 2010 and is administered by the National Oil Reserves Agency⁶. The scheme obliges each fuel supplier in the road transport sector to ensure a certain proportion of all fuel supplied is from renewable sources.

It is a certificate based scheme where certificates are issued in respect of volumes of biofuel which are placed on the market (e.g. by fuel suppliers). In order to be issued certificates, compliance with strict sustainability criteria must be demonstrated. Two certificates are awarded for each litre of biofuel produced from specified sources (including wastes and residues) with one certificate awarded per litre biofuels produced from other sources (generally crops).

For each calendar year, a fuel supplier must hold sufficient biofuel obligation certificates to demonstrate compliance. The number of certificates required is determined by the biofuel obligation rate.

The **biofuel obligation rate** is the number of biofuel certificates that must be held by each supplier in a given year as a percentage of the total transport fuel placed on the market in litres.

Since the start of 2019, the obligation rate is set at 10% by volume. This means that for every 90 litres of fossil-based road transport fuel placed on the market, 10 certificates must be held. This rate is set in legislation as 11.111% which is calculated as the number of certificates (i.e. 10) divided by the litres of fossil-based road transport fuel (i.e. 90).

From 1st January 2020, the obligation will increase to 11% by volume which is set in legislation as 12.359% corresponding to 11 certificates per 89 litres of fossil fuel.

It should be noted that Ireland's targets for renewable energy are calculated on an energy basis whereas the Biofuels Obligation Scheme currently operates on a volume basis. The energy intensity can differ between biofuels (e.g. a litre of bioethanol contains 21 MJ⁷ per litre compared to 33 MJ per litre for biodiesel) and to the equivalent fossil fuel (e.g. petrol

⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018L2001>

⁶ <http://www.nora.ie/biofuels-obligation-scheme.141.html>

⁷ Mega Joules per litre

contains 32 MJ per litre and diesel 36 MJ per litre). Therefore, the rates of biofuel penetration in volume terms do not correspond to the level of renewable energy use.

The recast Renewable Energy Directive allows for the Biofuels Obligation Scheme to operate on a volume or an energy basis.

The Biofuels Obligation Scheme also 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.

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. The compliance fee is set at a level of €0.45 for each certificate that a supplier is short of their obligation.

The Biofuels Obligation Scheme Annual Report 2018, published in May 2019 reported that circa 216 million litres of sustainable biofuels were placed on the Irish market. This was made up of approximately 162 million litres biodiesel (blended with diesel), 54 million litres of bioethanol (blended with gasoline) and half a million litres of bioLPG.

3.4 Biofuels Policy Statement 2018

In December 2017, the Department held a public consultation seeking views in relation to implementing increases in the biofuel obligation rate in 2019 and 2020, and on how the scheme will be developed in the future.

A key theme of the responses received was the need to provide certainty to industry and stakeholders to facilitate longer term planning for achieving compliance in future years. Following the consultation, a Policy Statement⁸ was published in April 2018 which set out the following six actions:

1. Continue the Biofuels Obligation Scheme until at least 2030
2. Increase the biofuel obligation to 10% by volume from January 2019
3. Increase the biofuel obligation to 11% by volume from 1 January 2020
4. Reduce the carryover of biofuel certificates from 25% to 15% from 1 January 2020
5. Work with industry and stakeholders to further increase the use of biofuels post-2020
6. Carry out public consultations on future obligation rate increases every two years post-2020

The increases set out in items 2 and 3 above have already been implemented⁹. The Department is currently developing the necessary draft legislation¹⁰ to achieve action item 4. In relation to the final action, a commitment was given that public consultations will take place well in advance of proposed changes to the scheme, with the first taking place in 2019.

⁸ <https://www.dccae.gov.ie/documents/Biofuels%20Obligation%20Scheme%20Policy%20Statement.pdf>

⁹ Statutory Instrument No. 198/2018 and Statutory Instrument No. 38/2019

¹⁰ National Oil Reserves Agency Act 2007 (as Amended)

3.5 Sustainability of Biofuels

Sustainability criteria established at European level ensure that sustainability requirements for biofuels placed on the market are reached. These measures include the requirement that feedstocks for biofuels are only sourced from land with low carbon stock and there is no impact on biodiversity.

In addition, biofuels must meet a minimum greenhouse gas emissions saving in comparison to fossil fuels. For instance, biofuel produced in an installation which came into production before October 2015 must have a greenhouse gas emissions saving of at least 50%. This minimum increases to 60% for installation which came into operation from October 2015 onwards and 65% for installations the come into operation from January 2021.

Biofuels used in the EU must comply with these sustainability criteria if they are to be counted towards compulsory national renewable energy targets. Suppliers can demonstrate that their biofuels comply with the criteria by relying on verification documentation provided by one of the voluntary schemes¹¹ that have been approved by the European Commission.

The average litre of biofuel placed on the market in Ireland in 2018 had a carbon intensity of circa 14.5 gCO_{2e} per MJ, which represents an 83% reduction in carbon intensity in comparison to road transport fossil fuel¹².

3.6 Indirect Land Use Change and Biofuels

With the growth of the biofuels industry in Europe, concerns about indirect land use change developed. A risk was identified that biofuel use in the EU could result in lands that were previously used to produce crops for food being converted to produce crops for biofuels. As the demand for food would still remain, other land previously non-cropland such as grasslands and forests could be fostered for food production. As a consequence, increased greenhouse gas emissions could be produced.

In an effort to address these risks and to encourage the use of advanced biofuels over biofuel produced from food and feed crops, the recast Renewable Energy Directive contains a number of provisions including:

- limiting the share of biofuels from crops grown on agricultural land that can be counted towards the 2020 renewable energy target in transport to a maximum of 7%;
- phasing out of biofuels produced from feedstocks that have a high risk from an indirect land use change perspective by 2030 at the latest and further limits to biofuels produced from food and feed crops which can be counted towards the 2030 renewable energy in transport target;
- mandatory targets for advanced biofuels for 2022, 2025 and 2030; and
- a requirement that biofuels deliver significant life cycle greenhouse gas savings against a fossil fuel comparator.

3.7 Multipliers for Certain Biofuels

In order to incentivise the use of certain biofuels, the 2009 Renewable Energy Directive set out that Member States would count the energy from biofuels produced from 'wastes,

¹¹ <https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/voluntary-schemes>

¹² The Biofuels Obligation Scheme Annual Report 2018

residues, non-food cellulosic material, and ligno-cellulosic material twice when calculating their renewable energy share in the transport sector. To reflect this, the Biofuels Obligation Scheme provides two biofuel certificates per litre of biofuel produced from '*wastes, residues, non-food cellulosic material,*' or '*ligno-cellulosic material*' and one certificate from all other types of sustainable biofuels.

The recast Renewable Energy Directive sets out that biofuels produced from a set list of feedstocks (known as Annex IX feedstocks) can be considered to be twice their energy content¹³. It is therefore necessary to amend the Biofuels Obligation Scheme to align with the new provision in the Renewable Energy Directive. A multiplier of 2 can then apply for certain biofuels which would be based on whether the feedstock used to produce them is an Annex IX feedstock. This may lead to some biofuels, which currently qualify, to no longer qualify for double credits though it is expected the majority will.

The recast Renewable Energy Directive also sets out that biofuels, not produced from food and feed crops, used in the aviation or maritime sectors can be considered to be 1.2 times their energy content when counted towards the renewable energy share in transport. Where such a multiplier is applied to biofuels produced from Annex IX feedstocks, a multiplier of 2.4 can apply.

In addition, a multiplier of 4 times and 1.5 times the energy content can apply to renewable electricity supplied to road and rail transport respectively.

The application of multipliers is a matter for individual Member States.

3.8 Advanced Biofuels Targets

The recast Renewable Energy Directive sets targets for advanced biofuels¹⁴ which Member States are to place on fuel suppliers. The targets which represent a percentage of the energy consumed in the transport sector are as follows:

- At least 0.2% in 2022
- At least 1% in 2025
- At least 3.5% in 2030

There is currently no obligation on fuel suppliers to include advanced biofuels as part of their fuel mix and therefore this must be introduced.

3.9 Limits on certain types of biofuels

Biofuels Produced from Food and Feed Crops

Under the recast Renewable Energy Directive there is a maximum limit on the amount of biofuels produced from food and feed crops that can be counted as renewable energy. However, Member States may decide to apply a lower limit.

The maximum limit is based on the level of renewable energy from such biofuels in each Member State in 2020 plus 1%. This is subject to a minimum of 2% and a maximum of 7%.

¹³ See Annex IX of the recast Renewable Energy Directive

¹⁴ List of advanced biofuels are set out in Part A of Annex IX in the recast Renewable Energy Directive.

This means that where a Member State that has less than 1% renewable energy in the transport sector from biofuels that are produced from food and feed crops in 2020, the maximum limit will be 2%.

It is expected that Ireland will have a level of less than 1% in 2020 and therefore the maximum limit that could be applied will be 2%.

High Indirect Land-Use Change-Risk Biofuels

Under the recast Renewable Energy Directive, the European Commission adopted a delegated act¹⁵ earlier this year to specify the criteria for high indirect land-use change-risk Biofuels.

Under the delegated act, Palm Oil is currently the only feedstock that meets the criteria classed as high risk. The Commission will be reviewing feedstocks again by mid-2021 and further feedstocks may be added. In addition, by September 2023, the Commission will review the criteria used which may result in further additions.

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

Used Cooking Oil / Animal Fats

The recast Renewable Energy Directive sets out that the energy from biofuels produced using from specific feedstocks¹⁶ can only count towards 1.7% of the renewable energy target in the transport sector. The current list of feedstocks includes used cooking oil (UCO) and specific animal fats¹⁷.

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.

Member States, where justified, can modify this limit taking into account the availability of feedstock. Any such modification shall be subject to the approval of the European Commission.

3.10 Biofuel Blends

The Climate Action Plan set targets for blending levels of 10% by volume in petrol and 12% by volume in diesel on average by 2030.

These are the levels (which do not include the application of multipliers) that are considered necessary in order for Ireland to achieve its 2030 emission reduction target.

There are technical challenges relating to the use of such fuels. For instance, 10% biofuel in petrol (commonly referred to as E10) may not be suitable for fuelling some cars currently in use in Ireland. This could mean that an introduction of E10 may require users of these cars to also have access to lower biofuel blends. This may lead to a need for changes in forecourt infrastructure.

¹⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R0807>

¹⁶ Listed in Part B of Annex IX in the recast Renewable Energy Directive

¹⁷ Classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009

It is understood that all petrol vehicles manufactured since 2011 and many manufactured prior to that year are compatible with E10. However, concerns exist in relation to some older vehicles about compatibility with blends higher than 5% ethanol (E5).

In addition, Ireland is part of an international supply chain and much of the petrol supplied is sourced from other countries (primarily the UK). The availability of E10 in future years will therefore be dependent on policy developments internationally, and in the UK in particular.

Transitioning to E10 is expected to require careful planning which may involve a lead in time for its introduction and an information campaign to increase awareness amongst Irish drivers about compatibility.

Moving beyond a 7% biodiesel by volume (commonly termed B7) will also present challenges. Presently, all of the biodiesel used in Ireland consists of fatty acid methyl esters (FAME). However, current fuel quality standards only allow for blends in diesel containing up to a maximum of 7% of FAME.

One option to increase the level of biofuel used in diesel vehicles is to use other compatible biofuels. For example, hydrotreated vegetable oil (HVO) is a form of renewable diesel that can be used as a replacement fuel or used in higher concentrations than 7% in diesel without impacting on fuel quality standards. However, there is a limited supply of HVO available internationally and the demand for the fuel is high.

3.11 Alternative Fuels

The Alternative Fuels Infrastructure Directive¹⁸ was developed by the European Commission to support the development of appropriate refuelling infrastructure and associated standards in the transition away from the use of oil. The directive outlines a number of possible alternative fuel options to oil in transport such as electricity, hydrogen, biofuels, liquefied petroleum gas (LPG), and natural gas in the form of compressed natural gas (CNG) and liquefied natural gas (LNG).

As set out as one of the requirements of the Alternative Fuels Infrastructure Directive, Ireland adopted and published a National Policy on Alternative Fuels Infrastructure for Transport¹⁹. The framework aims to establish targets to achieve an appropriate level of alternative fuels infrastructure for transport and support the uptake of alternative fuels.

The transition to electric vehicles will continue to make an increasing impact in decarbonising the transport sector over the next decade.

In the heavy goods sector, fuels such as CNG and LNG will begin to displace diesel in the near term. Hydrogen may also make a contribution in the medium to long term. The transition to these fuels will provide opportunities for increased penetration of renewable fuels such as biomethane and hydrogen produced from renewable sources.

Biomethane

The recast Renewable Energy Directive provides the ability for Member States to incentivise the use of fuels such as biomethane where they are produced from certain feedstocks (e.g. Annex IX feedstocks).

¹⁸ Directive 2014/94/EU

¹⁹ Policy is available here: <http://www.dttas.ie/sites/default/files/publications/public-transport/english/alternative-fuels-framework/6186npfalternative-fuels300517.pdf>

The implementation of an advanced biofuel obligation could provide an 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. Such an obligation is considered to have significant potential as a market support for the introduction and use of biomethane in the transport sector

Hydrogen

The recast Renewable Energy Directive defines 'renewable liquid and gaseous transport fuels of non-biological origin' as 'liquid or gaseous fuels which are used in the transport sector other than biofuels or biogas, the energy content of which is derived from renewable sources other than biomass'. An example of a renewable fuel of non-biological origin is hydrogen produced from renewable electricity.

Other Fuels

The recast Renewable Energy Directive defines 'recycled carbon fuels' as liquid and gaseous fuels that are produced from liquid or solid waste streams of non-renewable origin which are not suitable for material recovery, or from waste processing gas and exhaust gas of non-renewable origin which are produced as an unavoidable and unintentional consequence of the production process in industrial installations. Such fuels can contribute to achieving the renewable energy target in the transport sector.

3.12 Oil Stocks Emergency

Under EU and International Energy Agency requirements, Ireland must hold 90 days of its previous year's net imports of oil in the form of oil stocks that can be released to the market in an emergency. The National Oil Reserves Agency (NORA) manages Ireland's compliance with this requirement through the purchase and storage of strategic oil stocks.

As biofuels cannot be stored for prolonged periods in the same fashion as fossil fuels, strategic oil stocks do not generally include biofuels. In the event of a domestic oil supply disruption, NORA stocks could be released to the market.

However, the requirements of the Biofuels Obligation Scheme continue to apply. If such an emergency lasted for a prolonged period, it is possible that fuel suppliers may not be able to meet the requirements of the scheme. There is currently no scope in law to adjust 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.

3.13 Heat Sector

While the level of renewable energy in the heat sector has increased in recent years – rising from 2.4% in 2000 to 6.9% in 2017 – this sector is still primarily dependant on fossil fuels. Over 1.9 million tonnes of oil were consumed by the heat sector in 2017, representing over 42% of the energy use in this sector. Final use of oil in the heat sector was distributed across the domestic (51%), industry (26%), commercial/public services (13%), and agriculture and fisheries (10%) sub-sectors²⁰.

The recast Renewable Energy Directive requires Member States to endeavour to increase the share of renewable energy in their heating and cooling sectors by an indicative 1.3

²⁰ Sustainable Energy Authority of Ireland

percentage points as a yearly average. This increase can be limited to 1.1 percentage points where waste heat and cold is not used.

A number of policy measures aimed at decarbonising the heat sector have already been implemented. Building regulations have been updated to require that a share of the energy demand in new buildings comes from renewable sources. The provision of incentives, such as the Better Energy Homes Scheme, support domestic heat users to increase the energy efficiency of Ireland's housing stock. The Support Scheme for Renewable Heat promotes the adoption of renewable heat systems by non-domestic heat users.

However, if Ireland is to meet the challenging targets set in the recast Renewable Energy Directive, additional measures will be required.

One such policy measure would be to introduce an obligation scheme (similar to the Biofuels Obligation Scheme) in the heat sector. Such a scheme could involve requiring fuel suppliers in the heat sector to ensure a set proportion of energy supplied is from renewable sources (such as bioliquids²¹ or biomethane for gas consumers).

Such a scheme could allow Ireland to increase the use of renewable energy in the heat sector without significant replacement of infrastructure (such as oil/gas boilers in homes etc.).

Responses to the previous consultation of the Biofuels Obligation Scheme highlighted a number of challenges to using bioliquids in the heat sector. For instance, 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 for bioliquids. Some of the challenges can be overcome and others could be avoided by fuel suppliers concentrating supplies that included bioliquids to specific sub-sectors (such as industry). No such blending or storage issues would be envisaged with a blend of renewable biomethane for gas consumers.

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

4 Consultation Questions

The questions below set out indicative intended approaches only. No final decisions have been made in relation to the Biofuels Obligation Scheme for the period 2021 to 2030. The responses received to this consultation will be an input into the development of the scheme. Therefore, stakeholders should treat the information below as **indicative only and not final**.

While many of the questions below are direct questions, detailed responses setting out the reasoning for positions taken are welcomed.

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

²¹ Biofuels used outside of the transport sector are referred to as bioliquids

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?

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

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?

(b) What do you view as the technical 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?

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

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

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

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?

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 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

²² Advanced biofuels are those produced from feedstocks listed in Part A of Annex IX of the recast Renewable Energy Directive

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?

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

4.3 Obligated Parties

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?

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 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.

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?

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?

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?

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

4.5 Limits on Specific Biofuels

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.

²³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R0807>

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?

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 using 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.

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?
- (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?

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

²⁴ The biofuels are listed in Part B of Annex IX in the recast Renewable Energy Directive; animal fats are classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009

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?

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

²⁵ Based on a weighted average of 25% bioethanol (21 MJ/litre) and 75% biodiesel (33 MJ/litre)

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?

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 supplies 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?

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?
- (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?

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.