# Indaver response to the Biofuel Obligation Scheme

November 2019

Indaver welcomes the opportunity to respond the consultation on the Biofuel Obligation Scheme. Indaver is a member of Hydrogen Mobility Ireland and supports the response.

Indaver provides waste treatment services to a significant municipal, commercial and industrial customer base and owns and operates a 17MW hybrid renewable waste-to-energy generator in Duleek, Co. Meath. This facility treats waste that cannot be prevented, reused or recycled.

Indaver is considering the merits of hydrogen production across a number of existing and proposed facilities across Ireland & GB and is currently preparing a planning application to develop innovative technologies and new facilities at the Meath Waste-to-Energy (WtE) facility, including the:

- the installation of a 9MW electrolyser in order to generate hydrogen directly onsite;

- the development of a Hydrogen Refuelling Station (HRS) designed to fill vehicles, such as waste collection vehicles, with hydrogen fuel.

The inclusion of WtE as an eligible source of electricity in the Biofuel Obligation Scheme (BOS) enhances the wider environmental benefits including the diversion of waste/avoided methane from landfill, reduction of fossil fuel usage and the production of renewable energy. Indaver takes the view that whilst waste reduction and elimination must be prioritised, unavoidable wastes that cannot be recycled in a sustainable manner can be safely and effectively treated by WtE process. This form of sustainable waste technology has the added benefit of producing electricity and heat whilst ensuring that such unavoidable wastes are transformed into useful and valuable resources which can thereafter contribute to a circular bio-economy. By installing an electrolyser to produce hydrogen at Meath WtE, it will allow the use of the energy that would otherwise be wasted at times when the facility is instructed to power down by the Transmission System Operator.

As is outlined in Hydrogen Mobility Ireland's "*A Hydrogen Roadmap for Irish Transport 2020-2030*", a network of industry partners is ready to invest in developing hydrogen production and distribution infrastructure for Ireland. However, even optimistic predictions for developing a commercially viable hydrogen production and supply network will require support in the form of a scheme such as the Biofuel Obligation Scheme, in addition to other forms of support (for example demonstration model funding and other capital grant funding).

The recast Renewable Energy Directive (2018/2001) provides important opportunities to underpin the use of hydrogen as a transport fuel, such as the inclusion of hydrogen generated from non-biological but renewable sources (hydrogen produced by renewable electricity). Furthermore, the directive provides a level of discretion by allowing the use of multipliers for certain fuel types and to include hydrogen in the category of "advanced" biofuels and biogas for transport.

While subject to further clarification from the European Commission in the form of a delegated act, Annex IX of the RED II considers the biogenic fraction of municipal waste may be considered to be twice their energy content:

> *"(b) Biomass fraction of mixed municipal waste but not separated household waste subject to recycling targets".*

By introducing multipliers for the categorisation of hydrogen as an advanced biofuel (as has been introduced under the UK's Renewable Transport Fuel Obligation) or biogas for transport , wastes which would otherwise be disposed of are eligible for greater incentives than those which have other productive uses.[1]

While RED II provides opportunities for the deployment of hydrogen in Ireland, the way in which certain articles are drafted with respect to hydrogen have the potential to cause issues for the hydrogen mobility sector in Ireland. This aspect is well addressed in Hydrogen Mobility Ireland's consultation response, but the interpretation regarding "additionality" is of particular concern to Indaver and other generators. The renewable energy used for the production of hydrogen must be "additional" to existing capacities. While the additionality is not yet defined and formal guidance is expected from the European Commission in 2020, a very strict interpretation for additionality for renewable electricity could preclude certain supports for viable projects (if an exact synergy is required between the development timelines of a renewable electricity project the hydrogen production site such as an electrolyser). Challenging and protracted timelines exist for the development of new energy projects. These are caused by planning delays, a revision to the electricity connections process and have been influenced by a the energy sector awaiting news on the Renewable Electricity Support Scheme.

Furthermore, in order to facilitate early growth of hydrogen as fuel in Ireland, a guarantee of origin scheme for electricity provided to electrolysers through the grid should be established.

Given the broad application of the BOS, our responses are limited to the questions of relevance to hydrogen.

## Consultation Questions

**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.

[1] Paragraph 7.3, Department of Transport, *Explanatory memorandum to the renewable transport fuels and greenhouse gas emissions regulations 2018, 2018 No. 374*

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 Page 13 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)***

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

Indaver supports the proposal to move from a volume-based obligation to an energy-based obligation. Currently, EU and national targets are calculated a different basis, with the EU target based on energy content and the existing BOS target on volume sold. Asides from benefit of aligning the methodologies used for the targets, the proposal to include a number of new fuels in the scheme provides further rational to adopt an energy-based approach.

**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?

Yes. While commencement of the revised BOS from the beginning of 2022 provides a timely signal to potential investors in biofuels, confirmation of the details of the proposed scheme as soon as is practicable will assist in providing the rationale for investment decisions.

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

The introduction on an advanced biofuel obligation will serve as an important signal for the early development of hydrogen. RED II recognises that the feedstock for advanced biofuels and biogas for transport, "for which technology is more innovative and less mature and therefore needs a higher level of support, should, in particular, be included in an annex to this Directive". This is to be updated on a regular basis in order to take account of the latest technological developments.

## 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)***

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

Yes. Considering the scale of the decarbonisation challenge the scope of the obligation should be extended to include rail transport as an obligated party.

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 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)***

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

Indaver welcomes the proposal to exempt hydrogen sold as a transport fuel from the BOS obligation. It will serve as an important incentive in the early years. Furthermore, and is in the case in other Member States in the EU, it is quite plausible that some of the first refuelling stations may only sell hydrogen. By exempting hydrogen from the BOS obligation, it may also have the effect of encouraging traditional forecourt operators/ fuel retailers to provide hydrogen alongside existing fuels.

## 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?

Indaver supports the approach of issuing energy credits given that RED II requires Member States to report on the energy content of 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) |
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| (a) Do you consider the approach to applying multipliers to be appropriate?<br>(b) Do you consider the approach to applying multipliers impacts the risk of fraud? |

The use of multipliers for hydrogen is to be welcomed and will likely serve as an important instrument in incentivising hydrogen use in mobility in the early years. Given the high upfront capital costs involved in producing hydrogen, a higher incentive is required than the current level of the basic BOS. In the case of Indaver, it provides an incentive to invest in and install an electrolyser in order to use energy that would otherwise be wasted (when the facility is instructed to dispatch down by the TSO) and enable the production of hydrogen for the transport sector.

| **Question 14:**<br><br>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.<br><br>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.<br><br>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). |
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| (a) Do you consider the approach to setting the level of compliance fee (or 'buy out charge') to be appropriate? |

It is appropriate to continue with buy-out prices and to increase buy-out prices incrementally.

**Heat Sector**

| **Question 16:** |
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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.

The introduction of the BOS to the heating sector would serve as an important mechanism to incentivise renewable heat. Given the progress that has been made in terms of enabling the injection of biomethane into the gas grid, it is an encouraging application for hydrogen. Enabling the entry of hydrogen into the heat market would serve to increase the levels of usage and ultimately reduce costs across all sectors where it is used ( including transport and industrial).