





## Public Consultation on the Biofuels Obligation Scheme – 2019:

**RED II allows the inclusion of Hydrogen** generated from non-biological but renewable sources which draws on the strengths of what is happening in Ireland today and has huge potential for economic growth over the next decade.

Many of our members are investigating hydrogen from electrolyzers with the supply of electricity would be from a renewable energy low carbon source (a lot of the time curtailed or constrained renewable electricity source).

### Question 1:

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

Sustainable indigenous biofuels, such as waste from food industry & hydrogen from renewable sources should be encouraged. Imported liquid Biofuels (bio-ethanol & bio-diesel) should be discouraged.

Carbon emissions are a global issue not a country issue. The sustainability of liquid biofuels and their relationship with forest destruction and habitat loss in developing countries must be taken into account.

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

Increasing the amount of sustainable renewable % in fuels should be encouraged.

Sustainable indigenous biofuels, such as waste from food industry should be encouraged to increase the % of sustainable low carbon biofuels.

Hydrogen is currently used in the oil refinery in Cork to purify Diesel, however it is sourced from fossil fuels. This hydrogen if produced from a sustainable renewable source (wind or solar) can contribute to the % renewables in this fuel. RED II can accommodate this benefit.

### Question 2:

N/A

### Question 3:

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

Yes.

### Question 4:

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

Yes.

The timing for the use and growth of hydrogen in the energy mix (transport & heating & industry) is suitable.



Question 5:

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

Yes. Including low carbon hydrogen

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

Hydrogen.

We strongly welcome the proposal to include renewable hydrogen in the revised BOS. Hydrogen can help achieve the targets set. Initially in transport, but also for heating and to assist decarbonising industry's raw material needs.

"A Hydrogen Roadmap for Irish Transport 2020-2030 – Oct 2019"

[http://hydrogenireland.org/wp-content/uploads/2019/10/HMI\\_report\\_final\\_Oct3rd2019-2.pdf](http://hydrogenireland.org/wp-content/uploads/2019/10/HMI_report_final_Oct3rd2019-2.pdf)

Question 6:

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

Yes. Hydrogen can be used in rail applications (e.g. city to city across rural Ireland where battery electric trains are ineffective and overhead wires are too expensive).

E.g. French train maker Alstom has deployed hydrogen electric trains in **Germany & UK**.

**Germany:** <https://www.theguardian.com/environment/2018/sep/17/germany-launches-worlds-first-hydrogen-powered-train>

**UK:** <https://www.telegraph.co.uk/cars/news/hydrogen-fuel-cell-trains-run-british-railways-2022/>

**USA:** Southern California's San Bernardino County Transportation Authority has awarded Stadler a contract to supply a Flirt H2 hydrogen fuel cell powered multiple-unit to enter passenger service in 2024. <https://www.railwaygazette.com/traction-and-rolling-stock/us-hydrogen-train-contract-awarded/55124.article>

Question 7:

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

Hydrogen must be encouraged in the early 2020's. Hydrogen can help achieve the targets set. Initially in transport, but also for heating and to assist decarbonising industry's raw material needs.



Question 8:

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

We strongly welcome and it is very encouraging:

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

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.

Question 9:

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

Hydrogen can help achieve the targets set. Initially in transport, but also for heating and to assist decarbonising industry's raw material needs.

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

N/A

Question 10:

Yes.

Imported liquid Biofuels (bio-ethanol & bio-diesel) should be discouraged.

Carbon emissions are a global issue not a country issue. The sustainability of liquid biofuels and their relationship with forest destruction and habitat loss in developing countries must be taken into account.

Question 11: Question 12: Question 13: Question 14:

Sustainable indigenous biofuels, such as waste from food industry & hydrogen from renewable sources should be encouraged.

Question 15:

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

The encouragement of Sustainable indigenous biofuels, such as hydrogen from renewable sources in Ireland aims to allow for energy security so that importation disruption of fossil fuels, biofuels or feedstocks is reduced.



Question 16:

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

Renewable gas injection obligation for the heat sector:

Ireland has an extensive gas grid that presently supply natural gas for electricity generation, as an industrial raw material, and domestic and industrial fuel source for heat.

It is necessary to find ways to continue to make use of the vast gas network infrastructure in a low carbon future, to avoid having these assets stranded altogether.

Hydrogen is being pursued as a sustainable energy carrier for fuel cell electric vehicles (FCEVs), stationary fuel cell systems for buildings, backup power, or distributed generation, and as a means of increasing the output of renewable energy systems such as large wind farms and storing renewable energy at utility scale, shifting some variability caused by intermittent renewables on the electricity grid onto the gas grid.

Hydrogen can be produced from electrolysis and can technically be injected directly into the gas grid. Provided that the electricity source used for electrolysis is low-carbon, such as wind or solar energy, electrolysis has a very low environmental impact.

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

There are some safety & technical barriers that must be overcome before hydrogen can or should be injected to gas grid, but these are less technical and more regulatory.

Hydrogen from renewables has the scale to achieve decarbonisation of the gas grid.

There are many industries/organisations across Europe & UK aiming to achieve large % renewable hydrogen in the gas infrastructure.

Biomethane has been injected into the gas grid in Ireland already.

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

A medium ambition would be to achieve 20% renewable hydrogen in the gas grid, developing towards 100% renewable low carbon hydrogen in the gas grid.



Question 17:

Hydrogen can be an important pillar in the strategy for the complete decarbonisation of the Irish energy system.

In a recent report on Ireland by the IEA some comments are note-able:  
(Energy\_Policies\_of\_IEA\_Countries\_Ireland\_2019\_Review Hydrogen)

- “The Irish government should intensify research on hydrogen”
- “Emerging international research areas such as those relating to hydrogen also offer potential benefits and align well with the Irish resource endowment and its energy sector policies.”
- “The efforts to decarbonise the Irish gas infrastructure by the admixture of biomethane could potentially be supported by the use of hydrogen.”

We would suggest to government to provide support for renewable hydrogen in their revised Biofuels Obligation Scheme. Beyond a physical monetary value requested, a support scheme allows Irish businesses to develop knowledge, intellectual property and early hydrogen deployment projects across the country, overcoming economic and social barriers so that by 2030 Ireland is positioned to achieve the targets set in transport and with hydrogen in the mix, well on the way to achieve our energy system decarbonisation goals.

- Hydrogen can help achieve the targets set. Initially in transport, but also for heating and to assist decarbonising industry’s raw material needs.
- Sustainable indigenous biofuels, such as hydrogen from renewable sources should be encouraged.
- Hydrogen from renewables has the scale to achieve decarbonisation of the gas grid (heating & electricity) in the medium to long term.
- Hydrogen for other low carbon sources should be considered in the short to medium term:
  - Waste to energy
  - Methane to hydrogen using carbon capture & storage (CCS)

We are available to be contacted to clarify any topic or answer any questions you may have.

Hydrogen Ireland Association are happy to provide any information, evidence or analysis that may be required to help support consideration of the best implementation of a national policy for the development of Hydrogen within transport, heating, industrial or electricity sectors.

<https://www.worldenergy.org/publications/entry/innovation-insights-brief-new-hydrogen-economy-hype-or-hope>

[https://www.worldenergy.org/assets/downloads/1Hydrogen-an-enabler-of-the-Grand-Transition\\_FEL\\_WEC\\_2018\\_Final.pdf](https://www.worldenergy.org/assets/downloads/1Hydrogen-an-enabler-of-the-Grand-Transition_FEL_WEC_2018_Final.pdf)