

General note on the proposed Renewable Heating Obligation

The proposed obligation is in line with the RED2 directive, and it is noted that RED3 is due to be implemented in the short term and during the period of the obligation to 2030.

The proposed 0.5-3% obligation lacks ambition and is indicative of the low starting point due to the previously retarded market that was fossil fuel led.

The proposal should seek to mirror the transport obligation in the period i.e., start low but rise to be in line with the transport blend requirements by 2030.

The scheme proposal offers an opportunity to increase the ambition surrounding advanced biofuels and it is suggested that the advanced biofuel requirements under the RED2 should be followed when stipulating the level of obligation... i.e., a separate advanced biofuel target.

The sustainability criteria under RED2 offers a routeway for enhanced GHG reduction through the use of recycled Carbon fuels, on the face of the proposal it seems that this should also be mandated to mirror and build upon the Fuel Quality Directive reduction ambition.

A sustainability criteria assessment should be concluded for any renewable fuel marketed and it should have a corresponding reduction in the level of CO₂ emitted at the production level, i.e., for fuels produced using crop or residue-based AD for instance there is a potential that the captured residual CO₂ could be enhanced through a power to X system to increase the abatement potential rather than exhausted to air, if it is exhausted to air, depending on the original raw material input, it could inadvertently lead to an increase in GHG intensities.

The failure of the Transport obligation to achieve the levels of GHG reduction that were required under the FQD needs to be addressed by that Obligation.

This consultation is silent on GHG reduction targets for the proposed new scheme, this is an opportunity to set out a heating GHG reduction trajectory that should be addressed at the start.

The requirement for a renewable heat obligation should be on all heating parties, this includes the storage and space heating sector, it is of zero benefit to Carbon reduction initiatives if the user of oil, penalised for a higher cost of fuel, decides to switch to storage heating with a nightsaver rate, then uses most of their heating in the depths of winter when it is dark outside and relatively calm weather conditions, the potential for Carbon leakage is significant when the CO₂ from grid power is greater than the CO₂ from burning oil or gas.

A strict policing of what is and isn't a renewable energy supply is needed and if electricity is excluded then there is the potential for an increase in Carbon intensity in the heating sector as the grid is heavily polluted with Carbon and relies upon heavily polluting thermal generation when people need heat the most.

The proposed obligation and the pass through to consumers is counter intuitive and while good intentioned is somewhat counter to the adoption of renewable heat options.

In order to drive down costs economies of scale are needed.

If a consumer, under the proposal, opts for a 100% supply of renewable energy the costs are passed through to them while they subsidise the non-compliant.

It may be that a second strand is required to use both the carrot and stick, the option for a consumer to both have and to benefit from the choice of 100% renewable from a supplier needs to be captured within the proposed scheme.

The option for the consumer to become a prosumer could be explored where they export electricity to the grid and it is surplus to grid requirement, it could be used for heating purposes if the tariff structure was available, this would require the inclusion of electricity in the scheme.

The portion of fuel that is calculated for the purposes of the scheme as a renewable, should only be done under the strict requirement that the heating systems that they are displacing emit more CO₂ than they do, i.e., there is no point if the combined system emissions from a district heating unit over the year emits more CO₂ than the customers would have emitted if they kept their original system.

If this is allowed in the district heating sector there should also be a further obligation on the heat supplier to transition their fuel source fully towards 100% renewable by 2030 with an annual GHG reduction target.

For green Hydrogen and alternative fuels, it should be noted that there are requirements under RED2 article 90 dealing with Temporal and Geographical connections, Hydrogen taxonomy definitions also need to be addressed.

Grid connected Hydrogen generation is not green Hydrogen unless the entirety of the Carbon is accounted for.

In the case where a system that is grid connected is used to generate Hydrogen the following would be the Carbon footprint based on a snapshot of energy at 1pm 29/10/2021.

Currently the grid is producing 384 g/CO₂/kWh.

Using electrolyzers at 70% efficiency and a compression cost of 10%, energy inputted at 60% roundtrip from grid electricity to Hydrogen would be a reasonable expectation.

Therefore, every kWh of Hydrogen sold would equate to 640 g/CO₂/kWh.

If the Hydrogen is used in a new generation boiler, with a slight derating the expectation would be that it achieves 85% efficiency, this equates to a total CO₂ emission per kWh of useful heat at the consumers premises of 750g/CO₂/kWh.

This is 3+ times what would be emitted if the customer had used fossil natural gas.

The definition of Green Hydrogen needs to be understood before it is proposed to overcompensate it.

If Hydrogen is made from truly verified and green sources via direct connection or has been captured from yellow or turquoise sources that can be verified then it would be logical to compensate it appropriately, this could be in the form of an enhanced double or triple credit.

It should be noted that the use of direct electricity in either heating or transport suffers from the same Carbon challenge and the proposal to exempt them makes no sense as without mandating the removal of all fossil fuels from the grid, the push to electrify could increase CO2 emissions in the heating and transport sectors.

It would appear important that in any iteration of a renewable heat obligation that there is a twin track approach to both the use of a renewable heat in all its forms and the need to ensure that the heat that it is displacing from the system actually results in a reduction of the GHG intensity of the user by a sufficient figure to aid the budgeted Carbon scenarios.

