From: Stephan Bowe | GreenGasAdvisors <bowe@GreenGasAdvisors.de>
Sent: Tuesday 28 September 2021 12:35
To: Renewable Heat <RenewableHeat@decc.gov.ie>
Subject: Renewable heat

Dear madam or sir,

Gas Networks Ireland has established the renewable natural gas registry with help of GreenGasAdvisors' consultancy. This is the background for this contribution to your consultation.

Some General remarks:

- The Biofuel Obligation Scheme and the RHO have similar intentions. It makes sens to link them closely, or even combine them.
- Consider that RED II allows producers of renewable heat to also EU-wide tradable GOs.
- Table 5&6: The text indicates "significant differences" for small and large industries. However, the tables do not support this argument – they show the same relations.The fossil carbon intensity of the production process would be expected to have a stronger influence?

GreenGasAdvisors reply to the questions:

- Q1: Do you think that a Renewable Heat Obligation is an appropriate measure to introduce?
    - The measure is appropriate in itself.
    - However, I suggest to consider extending the focus. All RED-sectors (Electricity, Heat, Transport) have to become climate neutral, and they all feed from the the identical energy markets.
    - The obligation has a similar character as the existing biofuels obligation scheme (BOS). Introducing an combined obligation for renewable fuels, heat and electricity would tackle the transition of all sectors in one single instrument.
- Q2: If not, what alternative measures would you consider appropriate to increase the use of renewable energy in the heat sector?
    - Renewable energies in buildings are important, but the true challenge is to transform the buildings to more efficiency.
    - Raising the price for fossil energies to establishes business cases for production of renewable energies. Cheap natural gas hinders development of biomethane production. This is achieved by EU-ETS, and could be extended by further taxes/ phase-outs/caps for fossil fuels.
- Q3: Do you agree that the obligation should apply to all non-renewable fossil fuels used for heating as set out above?
    - Yes. Consider to explicitly exclude (imported) hydrogen from nuclear sources (if politically desired).
    - Consider to align the obligation with GHG savings (fossil comparator methodology) instead of MWh. This is part of the current RED III proposal.
- Q4: It is intended that electricity used for heating purposes and renewable/waste district heating systems would be exempt from this obligation, do you agree with this approach?

    - Consider to clearly differentiate in the provisions between renewable energy and waste heat/cooling. Waste heat & cold is not a source of renewable energy, according to RED definitions.
    - If electricity is exempt, this could incentivise the change of heating systems to electricity. If this is not the aim, the national electricity grid mix could be the basis for calculating the RHO. However, this could not be accounted for the heat target according to RED and would require separate statistics.
- Q5: Do you agree that the portion of fossil fuel input used in CHP plants to generate heat would be considered to be part of the obligation?
    - All fossil input needs to be phased out. Such input should only be allowed for a transitional phase – consider to include a defined phase-out for such fuels. This would also support the transition to biomethane/H^2 in the gas grid.
    - Consider to use GOs for high efficiency cogeneration to cover CHP plants.
- Q6: Are energy suppliers the most appropriate bodies to become the obligated parties in the heat sector?
    - Agree.
- Q7: Is the 400 GWh of energy supplied an appropriate level for a supplier to become obligated?
    - Consider including a path to decrease this value over the years.
    - Consider: A company could split up into a group smaller companies in order to avoid this regulation.
- Q8: Do you agree with the 2023 start date for the obligation?
    - Consider to set the first full calender year after entering into force of the RHO.
- Q9: In terms of the obligation rate, do you agree with the proposed initial level of obligation of 0.5%?
    - The idea of a smooth introduction supports acceptance for the instrument. However, the suggested approach may lead to a delayed notice of problematic situations with the overall RHO.
    - Alternative suggestion: Start on an annual basis with (over-)ambitious targets, but include no or only very small penalties in the first 1-2 years. Thus, the challenge becomes clear for both economic operators and system operator. Furthermor, market procedures would develop already in the first year of operation of the scheme.
    - Consider to also oblige economic operators to apply a minimum share of renewable energies (and not RHO credits) after a few years of operation of the scheme. This would then force all operators to purchase renewable commodities, and to not only rely on obligation credits. This would help to establish a renewable commodity market.
- Q10: In terms of ambition for a 2030 target, what level of ambition do you think is appropriate? 3% minimum 5% medium ambition 10% higher ambition Other?
    - According to the IPCC-Report of Summer 2021, the remaining carbon budget for 1.5° will be used up in less than 8 years: https://www.mcc-berlin.net/en/research/co2-budget.html, 2° will be reached after 26 years. Therefore, even the 10% ambition would clearly fail for a 1.5° pathway, and be insufficient for a 2° pathway.
    - Consider that the last % of decarbonisation will be much harder to achieve than those % laying ahead of us, which are to be achieved with the RHO.
    - A low-level for the start sets the wrong impulses. Consider to start with high ambition to triggers investments.
    - Expect overall ambitions in EU and RoI to further increase due to progressing climate change in upcoming years.
- Q11: Do you agree with the first obligation period being multiple years 2023-2025 to give the industry time to develop supply lines?
    - Consider other options for a smooth introduction.

    - The secondary market for the obligation credits would be established faster if reporting was required already in the first year.
    - Robust annual RHO-statistics would be available sooner if raised under the same conditions from the starting year.
    - Alternative suggestion for a smooth introduction: Start the reporting on an annual basis, but introduce penalties later or start with only symbolic penalties. This procedure would indicate to suppliers the required amounts clearly already after the first year of operation of the RHO.
- Q12: Once the first period 2023-2025 expires, do you agree with the obligation then becoming an annual obligation?
    - see Q11; suggest to start with annual obligations
- Q13: Do you agree with suppliers being able to trade credits in order to meet their obligation?
    - Agree. This gives more freedom to economic operators, while ensuring the overall pathway.
- Q14: Do you agree with allowing 10% carry over of renewable credits to be used in the following year's obligation?
    - If in the beginning phase, a two-year period is introduced, consider to not allow a carry-over for this period.
- Q15: What are the sustainable energy sources likely to meet the Renewable Heat Obligation at an obligation rate of (i) 3%, (ii) 5%, (iii) 10% by 2030?
    - Additional comment: Consider that in RoI still peat soils are used as source for heating. A clear phase-out pathway for peat as energy source would contribute to overall sustainabilty.
- Q16: Will there be enough sustainable indigenous supply to meet this demand?
    - The question does not address the core of the problem. Instead, consider a thinking in the opposite direction:
      The RHO and other similar schemes aim to create the demand for such supply. Only with the demand triggered by these regulations, there will be investments in production of indigenously and sustainable produced renewable energies.
    - Instead, if the RHO lacks ambition, there is a larger risk of lacking supply.
- Q17: Do you agree that for renewable fuel delivered directly to a consumer that this will be the point of supply?
    - Yes. For this kind of delivery, a mass balance approach would be appropriate. The general rules are set out in RED, for direct fuel deliveries.
- Q18: Which option to you think should be applied for renewable energy that is indirectly supplied (e.g. via the natural gas grid)?
    - GNI operates the Renewable Natural Gas Registry already today, which could cover this part for deliveries through the gas grid (https://www.gasnetworks.ie/business/renewable-gas/registry/).
    - The RHO (and the BOS) could define an Irish definition for mass balancing in the gas grid according to RED II. This would help establish biomethane and H_2 as a renewable energy commodity.
- Q19: Do you think the costs set out above are reflective of likely costs?
    - Consider to convert these costs to €/CO_2eq. This would allow to compare them with other carbon pricing levels, e.g. in ETS.
- Q20: Are these costs reasonable to impose on consumers?
    - Consider this question: Any costs suggested in the RHO have to be compared with the costs of not-acting.
    - The costs for consumers would be much higher if climate change was accepted. Considering the implication of climate change above 1,5°/2°, the all costs mentioned here would be "reasonable".
    - Additionally, consider the costs for the national budget of RoI, if RED II targets are not achieved. The mechanism in Art 8 RED II would force RoI to

spend money in the statistical transfer which would be missing in the national budget.
    - The other side of the same coin referring to "costs" are the investments in new renewable energy production. Any "costs" implied by RHO should be considered as an "investment" in Irelands own future energy supply. In any way: The costs of the obligation need to be high enough to trigger the desired investments in new production plants.
- Q21: Do you agree with the intended position in relation to penalties for non-compliance?
    - The penalty is an important element of the instrument. It defines the maximum price of the tradable RHO obligation derivate on the market.
    - Consider to define the penalty in GHG-savings (fossil comparator) in €/t CO_2eq rather in MWh. This is in line with RED III suggestions for the fuel sector and would allow better alignment with other instruments.
    - For comparison: Germany has a fuel obligation with a penalty, which has been raised from 420 €/tCO_2 to 600 €/tCO_2 in order to enable a business case for H_2 production.
- Q22: Do you think the proposed obligation poses a significant risk to increased energy poverty?
    - This is a very important question for acceptance of the RHO. However, it should be dealt with in another context. The RHO may trigger investments in renewable energies, but the social issues related to the transition need to be solved with other instruments.
- Q23: How best could the impacts on energy poverty be minimised?
    - Above all: Increase building efficiency in rental houses.
    - Do not question the idea of the RHO, and do not set social issues against climate change issues
    - Suggestion for a fundamental new instrument to trigger efficiency investments in rental houses:
      Landlords have to cover costs for the heating of their rental houses, if they exceed a defined level. This uniform level would be expressed in heat required per flat size, in kWh/m². This level could decrease annually. Thus, the landlord has an own interest to invest in thermal insulation and make it fit for the future.
      As a result, tenants would still take the risk of rising energy prices (price risk), but the risk of high energy demand for heating would be capped for them (volume risk).
    - Consider to establish in parallel e.g. a direct support programme for households threatened by poverty.
- Q24: Do you agree with the outlined approach for additional support for green hydrogen?
    - Obligations should be technology neutral. Application of multipliers is a (hidden) technology support.
    - The additional costs for end consumers which result from this type of technology support are very difficult to estimate and manage. Windfall profits may make energy transition more costly and detriment acceptance of the instrument.
    - Multiple accounting veils the actual overall achievement, causing intransparency of the instrument. The obligation credits would not align with the actual consumption any more and make statistics difficult to interpret.
    - Additional support for renewable production, e.g. hydrogen or biomethane could instead be achieved outside the RHO by other means (support programme, tax exemptions,...).
- Q25: Do you think that offering multiple credits for green hydrogen in the heat sector might have unintended consequences for supply in other sectors such as transport?

- BOS and RHO could be closely aligned, if not at all combined in one instrument (see anwer to Q1). If different support levels / multipliers are introduced, an unintendet competition between the instruments could result. Thus, all hydrogen from the market would tend to only one of the instruments.
- Offering different support levels / multipliers in the instruments would confuse market participants and lead to seperate hydrogen prices for the exact same physical commodity.

Feel free to get back to me in case you have any questions regarding my contribution.

Kind regards / schöne Grüße

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