DZIAŁ REGULACJI UE I SPRAW MIĘDZYNARODOWYCH
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ORLEN'S POSITION ON PROPOSAL OF LOW CARBON FUEL DELEGATED REGULATION

ORLEN welcomes the opportunity to comment on the proposed draft delegated regulation on a methodology for assessing greenhouse gas emissions savings from low-carbon fuels (hereinafter: „delegated regulation").

The regulation is important for the ORLEN Group, particularly given the company's strategy to achieve climate neutrality by 2050. The final shape of the act will be crucial to enable the full potential of hydrogen to contribute to the transition processes as the production of both renewable and low-carbon hydrogen will play a key role in ensuring decarbonisation.

However, we have identified issues in the delegated regulation that, as currently drafted, may hamper the fulfilment of the full potential of hydrogen, such as, among others, the lack of a technology-neutral approach to hydrogen production technologies, the lack of identification of product certification opportunities using PPAs and certificates of origin for low-carbon fuels as well as binding obligations from the delegated regulation to the challenging obligations of the methane regulation.

1) KEY ROLE OF TECHNOLOGY NEUTRAL APPROACH

- The draft states that when taking into account fuel as a mix of low-carbon fuels and other fuels, the emission intensity shall be set at the same level for different fuels (Annex Part A, point 1).
- The presented approach is unfavorable and may put in risk production of low-carbon hydrogen using different technologies.
- It is of key importance to address the fact that different production technologies may differ in their emission intensities.
- As an example, comparison between steam reforming and methane pyrolysis can be made as there is no CO_2 emissions in the latter process. Mentioned technologies should be differentiated in terms of the possible CO_2 by-product.
- The proposal included in the delegated regulation is contrary to a technology-neutral approach. Therefore, it seems reasonable to **apply more flexibility in the calculation of renewable and low-carbon hydrogen production and to allow the attribution of renewable/low-carbon energy input emission intensities to specific production technologies.**
- Moreover, the adopted carbon intensity factor for electricity should be calculated individually for each source. It would be in line with the methodology for renewables defined in the RFNBO Delegated Act.
- However, it should not be so restrictive (lack of additionality) due to the lack of/less competition for low-carbon energy with other industries. Therefore, **it would be beneficial to have dedicated benchmarks for low-carbon sources of electricity or heat production, which would power hydrogen/low-carbon fuel installations**.
- The delegated regulation does not recognise the possibility of using guarantees of origin and PPAs for zero/low carbon sources other than RES (e.g. nuclear power plants) This is contrary to a technology-neutral approach. According to the EMD Regulation, PPAs should be promoted in the EU electricity market and this way of calculating the carbon footprint of hydrogen could increase the potential for hydrogen generation in the 2030s, especially with the development of SMR technology.
- What is more, defining a carbon intensity factor based solely on the country/bidding zone level is contrary to a technology level playing field and discriminatory for regions with energy mixes historically skewed towards fossil fuels, such as Central and Eastern Europe (carbon intensity factors from Table A).

- The last point regarding technological neutrality refers to the lack of the methodology for counting emissions when using pyrolysis to produce low carbon hydrogen. This creates uncertainty about the feasibility of using the pyrolysis process to produce low carbon hydrogen. Therefore, we request that the **methodology for counting emissions for the pyrolysis process should be described in detail, particularly with regard to the emissivity of residual solid carbon**.

2) LINKING DELEGATED ACT OBLIATIONS TO OTHER REGULATIONS

- As stated in the draft, the methane intensity of the production of fossil-based elastic inputs that increase the heating value of low-carbon fuels produced in the Union shall be calculated in accordance with the methodology set by the Commission in accordance with Article 29(4) of Methane Regulation (Part A, point 7).
- In ORLEN's opinion, **it could be unfavorable for investors to introduce the obligation that the methodology for calculating the methane emission intensity must be consistent with the one set in the Methane Regulation**. Especially taking into account uncertainty as the mentioned methodology will not be in place until August 2027.
- It may result in the certification of products that will be dependent on the regulation, which came into force after most investments had obtained their FIDs.
- Therefore, it seems reasonable that **production certification should be based on individual methane/CO_2 emission intensity factors. If methane intensity factors are not available, default values (as provided in the part B) should be used, without additional and arbitrary mark-up.**
- There is also a need for clarification of at what stage the proposed mark-up of 40% should be applied and why the mark-up has been established on such level.
- Furthermore, delegated regulation shall **provide a grandfathering clause** to ensure that the methodology and thresholds will be established at the time of FIDs of the projects and will remain unchanged throughout the economic life of the assets.

3) HYDROGEN AND NATURAL GAS BLENDING PERMISSION

- Using hydrogen transported in current gas networks as a blend with natural gas may be the most economical solution till hydrogen networks become widespread.
- Current regulations do not fully regulate this issue, but recently published guidance on RFNBO targets laid down in RED III requires physical separation of hydrogen from the blend in order to include this hydrogen for regulatory purposes.
- It is of key importance, to **provide the possibility of including hydrogen for regulatory purposes without physical separation from the blend with natural gas, at least until the wide deployment of hydrogen networks**.
- In this case, the emission intensity should be calculated separately for hydrogen and natural gas inputs.

4) USE OF UNION DATABASE

- As stated in Recital 4 of the draft, the certification framework for low carbon fuels is fully aligned with the one set out in RED directive for renewable fuels.
- Accordingly, raw materials used for the production of low-carbon fuels as well as the low-carbon fuels should be traced via the Union database in the same way as raw materials used for the production of renewable fuels.

- Reporting within the EU database from the RED directive applies to biofuels, where each entity has its own competence within the supply chain. In **case of low-carbon hydrogen production, it may be difficult to transfer these mechanisms, making it problematic to track and report within the EU database**.
- Moreover, the approach proposed in draft **may lead to obstacles to projects outside the Union**. It is **crucial to ensure that the carbon intensity of raw materials used for the production of low-carbon fuels transported via grids outside the UE, will be recognised and able to be certified by voluntary schemes**.

5) UNCERTAINTY OF CCS IN THIRD COUNTRIES

- CCS is permitted under Directive 2009/31/EC of the European Parliament and of the Council or under applicable national law in third countries.
- Notwithstanding the above, it is unclear who determines the compatibility of third country law with EU's law, when and according to what criteria.
- It generates risks for potential circumvention of the law and incompatibility between EU and non-EU law.
- As a result, it may create uncertainty about the possibility of importing delegated regulation compliant low-carbon fuels from third countries.
- Therefore, **the rules for determining the compatibility of third country law with EU's law should be provided.**

6) POWERING LOW CARBON FUELS WITH ELECTRICITY OTHER THAN RES OR GRID CONNECTION

- According to Article 3 of the delegated regulation, the Commission proposes to carry out the impact assessment of the possibility of powering low carbon fuels production facilities with electricity other than RES (e.g. from nuclear power plants) by 2028.
- The provided date seems to be too late to revise the delegated act and postpone the issue of emissions counting methodology for alternative energy sources in time.
- Therefore, the **deadline for the revision of the delegated regulation allowing inclusion of the possibility of using electricity from alternative sources for RES for low carbon fuels production should be shortened and take place no later than 2025.**

7) WASTE HEAT NOT AFFECTING ENERGY CHARACTER

- It seems reasonable to clarify the use of waste heat in the production of low-carbon hydrogen.
- Waste heat used for high-temperature electrolysis should not affect the energy character of the final fuel - if the electricity is all renewable or low-carbon, then the hydrogen produced is also renewable or low-carbon.
- The emissivity of waste heat in this case contributes only to the carbon footprint of the fuel.
- In the case of the use of waste heat from new installations, or in the case of installations where the use of waste heat in hydrogen production has been demonstrated to be the most efficient recovery pathway, the **emissivity of waste heat** (as an opportunity cost) **should be zero and should not be based on the next best economic alternative**.
- The corresponding clarification should be included in the DA RFNBO.

8) INCOMPATIBILITY WITH REFUEL EU AVIATION

- According to the provisions of ReFuelEU Aviation, synthetic low-carbon aviation fuels (that meet the objectives of the regulation) are defined to be derived from low-carbon hydrogen produced only from non-renewable and non-fossil sources (Art. 3 of REFuelEU Aviation).

- Taking a literal approach to the wording of the above-mentioned definition, the only energy sources that can produce these fuels are nuclear units (non-renewable and non-fossil).
- However, the delegated act that regulates hydrogen and low-carbon fuels excludes at this point the production of low-carbon molecules using nuclear energy.
- This leads to a situation where low-carbon synthetic aviation fuels will probably only be able to be produced by countries that have a low-carbon electricity grid and a large share of nuclear power in the generation mix. It will allow them to produce low-carbon fuels from a direct connection to the electricity grid while maintaining appropriate fuel emission settlements.
- It means that the definition of synthetic low-carbon aviation fuels will only be met by a few EU countries, and this creates a situation that is far from the level playing field.
- The vast majority of EU countries with a highly carbon-intensive electricity grid will have negligible opportunities to produce hydrogen and low-carbon fuels from grid connection if the content of the delegated regulation does not change.
- Therefore, we propose (as in *KEY ROLE OF A TECHNOLOGY NEUTRAL APPROACH* section), **not to restrict any energy source as well as allow for PPAs for low-carbon energy from various low-carbon technologies** (e.g. nuclear).
- In addition, it would be recommended **not to apply additionality requirements for low-carbon sources, avoiding the age handicap for sources feeding the electrolyzer that is specified in the delegated act for RFNBO** (RES sources no older than 36 months).
- Expanding the issue of sourcing options for low carbon fuels production to include sources other than RES would also provide opportunities for more countries to meet REFuelEU Aviation targets more efficiently than relying only on RES power or the grid emissivity.

9) OTHER ISSUES

- It is necessary to **clarify** whether the **rules** under the **Delegated Regulation cover both** low carbon fuels **produced within the European Union and the European Economic Area** and those **produced outside these areas and imported into the European Union**.
- We propose to **modify** point 10(c) in Part A to ***the carbon stems from biofuels stemming from biofuels, bioliquids or biomass fuels complying with the sustainability and greenhouse gas saving criteria set out in Article 29 of Directive (EU) 2018/2001***. It is of key importance as this will allow the expansion of the types of biogenic carbon sources for synthetic fuel production processes.
- The delegated regulation provides eligibility of CO_2 stemming from industrial sources listed under Annex I to the ETS Directive 2003/87/EC constraints the possibility to amortize investments in collective CO_2 capture and transport infrastructure till 1st of January 2041 at latest (Annex A point 10(a)). ORLEN states that the **deadline should be extended at least by 5 years**. It is of key importance to allow large-scale infrastructure to adapt, and to increase the EU's biogenic CO_2 footprint from large-scale domestic biomass waste.
- Table 5 in delegated regulation annex, presenting fuel upstream emission factors per MJ of fuel on a net calorific value, **does not take into account biogases that can be characterized by negative emissions, and only attributes a default value to them**. A value of 13.7 g $CO2_{eq}$/MJ is very unfavorable and could result in the elimination of units that are powered by biogas, including biomethane.
- We request the publication of the methodology used to calculate the default emission factors for stationary combustion (table 3) especially for methane and diazotium oxide, as well as clarification of the source of emission intensity of generated electricity in Member States in 2022 described in table 6.

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