

## SECTION D: Energy content of biofuels

According to the National Renewable Energy Action Plans, Member States estimate that the contribution of biofuels will be approximately 9.5% of energy consumed in transport, most of which is expected to be biodiesel and bioethanol.

1. Do you think additional types of biofuels need to be listed in Annex III of the Directive? If yes, which ones and could you provide values?

Please provide references for suggested values

Yes. For reasons relevant to industry performance and to Europe reaching its stated energy targets and climate change mitigation goals, Neste believes it is important that EU authorities include those additional renewable fuel products that are fully compliant with all Renewable Energy Directive criteria into the directive's Annex III. These renewable fuels, listed below, are covered by the definition of "biofuels" in Article two of the Directive, but are not specifically listed in Annex III. As a result, their current non-inclusion in the annex leads to discrimination of these products in national markets, as recent experience has shown. This discrimination is contrary to the aims of the Renewable Energy Directive (RED).

Firstly, Neste Oil asks the European Commission to include in Annex III the following renewable transport fuels and their energy content by mass and by volume. These fuel products are produced using hydrotreated vegetable oil (HVO) technology:

- HVO petrol with energy content of 44.87 MJ/kg and 30.15 MJ/l,
- HVO jet fuel with energy content of 44.30 MJ/kg and 34.07 MJ/l, and
- HVO liquefied petroleum gas (LPG) with energy content of 46.33 MJ/kg and 23.52 MJ/l

Inclusion of these products in the annex can make important contributions towards RED goals of mitigating greenhouse gas emissions, improving energy security and promoting a diversification of renewable energy feedstocks.

The molecular structure of HVO jet and HVO LPG is similar to their fossil fuel counterparts. Similarly, HVO gasoline is used as a gasoline component in the same way as fossil-based gasoline components are used. Yet, HVO jet, HVO LPG, and HVO gasoline are renewable products that deliver substantial reductions in greenhouse gas emissions compared with fossil-based products.

Like other Neste renewable fuel products, HVO jet, HVO LPG and HVO gasoline are produced using feedstocks, such as animal fat and vegetable oils, which are cultivated and produced in a fully sustainable and traceable manner that meets all RED criteria.

It is important to understand that these renewable fuels can be blended seamlessly with conventional fossil-based fuels without technical problems and without the need for new infrastructure requirements.

Secondly, Neste Oil asks the European Commission to include in Annex III bio-TAME (tertiary-amyl-methyl-ether), produced on the basis of bio-methanol. TAME is ether presently produced and is an analogue to TAE (tertiary-amyl-ethyl-ether) already included in the Annex III.

- TAME energy content of 36.44 MJ/kg and 28.24 MJ/l
- TAE energy content of 37.66 MJ/kg and 29.00 MJ/l

Neste Oil strongly supports European Fuel Oxygenates Association (EFOA) position to include in Annex III of the RED all ethers produced from bio-alcohol basis, including the heavier ethers (tertiary-hexyl-methyl-ether (THxME) and tertiary-hexyl-ethyl-ether (THxEE)).

2. Do you think more precision in terms of decimals is necessary in the values in the Annex? If yes could you provide such values?

Please provide references for suggested values

Yes, because taking decimal points into consideration with energy content is standard operating industry practice and provides a fuller and more accurate accounting of the calorific value of a given fuel. Additionally, taking decimal points into consideration provides for a much more level playing field on which all renewable fuels can compete. Such a level playing field is, no doubt, a recognized goal within the RED.

Energy content of transport fuels, as listed in Annex III of the RED, are to be taken into account in the calculation of final gross consumption of energy from renewable sources in each Member State. These values are currently defined in the annex for each type of fuel by mass and by volume (lower calorific value, MJ/kg and MJ/l) without any decimal places, contrary to the common industry practice, in which the energy content of fuels is reported with decimal-point values. As a consequence of how energy content is currently accounted for in the RED, fuel products whose energetic value is rounded down are disadvantaged against those fuel products whose energy content is rounded up. This is the negative effect that occurs with HVO diesel, which is rounded down from a fully accurate 34.39 MJ/l (44.09 MJ/kg) to a less accurate 34 MJ/l (44 MJ/kg) currently in the RED.

The values of 34.39 MJ/l (44.09 MJ/kg) have been analysed by third party, private laboratories and approved as an official basis for the heating value of HVO in Germany<sup>1</sup> (appendix 1). The effect of unequal accounting of current energy values of fuels in Annex III is commercially magnified when

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<sup>1</sup> Announcement of the Ministry of Finance, Germany, IIIA1-V8405/07/0002, 30 April, 2008.

considering that millions of litres of each of these products are delivered to the European market annually in order to fulfil their renewable energy targets.

In the interest of fulfilling all the goals of the RED and reflecting standard industry practice, Neste Oil proposes to the Commission to use decimal -place values for the energy content of fuels and biofuels listed in Annex III of the RED. As already stated, for HVO diesel these decimal point values should be 34.39 MJ/l and 44.09 MJ/kg. Taking these decimal points into account provides the fullest accounting of HVO diesel's energy content. Respectfully, Neste Oil proposes to use decimal -place values for bio -ethers listed in Annex III of the RED.

Furthermore, the use of decimals in energy content accounting is used by Member State authorities for tax purposes and is based on national standards' for calorific value measurement (e.g. German DIN51900-1:2000) and other standards (e.g. ASTM D 4809 -2009). The measurement according the standards gives the result with three decimals in MJ/kg and it is often reported with two decimals .

Neste oil believes all fuels meeting RED criteria should be treated using decimal point values in order to provide the most level playing field for all economic operators, a key principle that underlies the RED. Doing so would reinforce the EU's commitment to transparency and to providing industry with the most optimum operating environment for reaching the EU's climate and energy -related goals.