

*BIKE is a Horizon 2020 project whose objective is to support uptake of the low ILUC-risk concept for biofuel feedstocks. This series of Briefing Notes seeks to explore issues in the EU policy sphere which may impact low ILUC-risk value chains, and identify opportunities for fostering an enabling policy environment.*

## Low ILUC-risk crops and Annex IX



Cultivation of Camelina in Thessaloniki (Greece)

The Renewable Energy Directive ('RED II') gives privileged status to certain biofuel feedstocks, listed in its Annex IX. These are entitled to be 'double counted' towards national renewable energy targets, making them an attractive compliance option, and stimulating investment in the associated value chains and fuel conversion technologies. For example, used cooking oil and animal fats are included in Annex IX Part B, and it is primarily for this reason that their use for biodiesel or HVO<sup>i</sup> in the EU has increased sixfold between 2010 and 2022<sup>ii</sup>. Other feedstocks which are listed in Part A of Annex IX (associated with "advanced" biofuel technologies) are further bolstered by targets for ramping up their contribution to the energy mix between now and 2030.

Of the four low ILUC-risk case studies developed by the BIKE project<sup>iii</sup>, the two using cellulosic crops already qualify as Annex IX Part A feedstocks, and the other two involve production models which could be covered by proposed additions to Annex IX. This Briefing Note explores the suitability of low ILUC-risk certification to be an Annex IX sustainability safeguard, and a factor in feedstock eligibility.

### Adding feedstocks to Annex IX

The European Commission may add feedstocks to Annex IX on a biennial cycle. Prospective additions must be reviewed against six considerations<sup>iv</sup>, including "the need to avoid negative impacts on the environment

and biodiversity”, and “the need to avoid creating an additional demand for land”. The Commission’s recent proposals for new entries to Annex IX<sup>v</sup> included two categories of cropped feedstocks, and the proposed language included constraints intended to manage the potential for increasing land demand with similar but more specific conditions:

*“(1) in Part A: ... Non-food crops grown on severely degraded land, not suitable for food and feed crops.”*

*“(2) in Part B: ... Intermediate crops, such as catch crops and cover crops that are grown in areas where due to a short vegetation period the production of food and feed crops is limited to one harvest and provided their use does not trigger demand for additional land and provided the soil organic matter content is maintained.”*

At the time of writing, the consultation on these Annex IX additions had closed. Feedback received from stakeholders in industry, academia, NGOs, and civil society will now be considered by the Commission, and finalisation of a delegated act is expected later in 2023.

## Responses to the consultation

A brief review of responses to the Commission’s consultation revealed some broad themes raised by the consultees that are relevant to BIKE’s research agenda. The two new provisions quoted above were the subject of much discussion by stakeholders from various sectors<sup>vi</sup>. Some specific issues raised are outlined below.

### The cap on Part B feedstocks

The RED II specifies that “Feedstock that can be processed only with advanced technologies shall be added to Part A of Annex IX”, while those associated with mature technologies are included in Part B. Being added to Part A provides a stronger value signal for use of a given feedstock, because while feedstocks from both parts of the Annex may be double counted by national regulators, the contribution of Part B feedstocks to transport renewable energy targets is capped at a maximum of 1.7%<sup>vii</sup>, while Part A feedstocks are subject to a minimum share target to encourage their use.

The RED does not include an explicit justification for capping the use of fuels from Part B feedstocks; but the cap does offer the benefits of moderating diversion of residual resources with existing productive uses, limiting the risk of fraudulent mislabelling of virgin oils as residual oils, and reducing the potential for competition between fuels from Part B feedstocks and fuels from other more innovative pathways. When the level of the Part B cap was set, used cooking oil and Category 1 & 2 animal fats were the only feedstocks listed in Part B.

The Commission’s newly proposed additions to Annex IX Part B would represent a considerable expansion and diversification of feedstocks beyond those originally listed – adding damaged crops, intermediate crops, and a range of other wastes and residues to the existing lipids. Several consultees suggested that adding new feedstocks into Part B should be accompanied by increasing the level of the cap. This is framed in terms of taking advantage of the increased supply potential from an extended feedstock list and avoiding negative impacts on the value of existing feedstocks from increased competition within the cap.

Some consultees also noted that the introduction of an EU database may alleviate fraud concerns. It would be appropriate for the Commission to consider whether an adjustment to the current capped level is warranted, though it should be noted that Member States already have some leeway to adjust the

Part B cap upwards based on their assessment availability of feedstocks. Given the differing character of feedstocks on the expanded list, in future amendments to the RED the Commission could consider breaking Part B into two sections, one subject to a cap and one uncapped.

### Clarity of definitions and verification of feedstock status

Consultation responses raised questions over the definition and interpretation of a number of terms, including 'severely degraded land', 'intermediate crops', and 'land not suitable for food and feed crops'. Clarification of these terms would aid the consistent implementation of the expanded Annex IX list, and in some cases also relate to the low ILUC-risk concept (see BIKE Briefing Note #2<sup>viii</sup> for further discussion). There may be scope to harmonise some of the definitions with those used in EU agriculture and land use policy in order to simplify the conceptual landscape.

A further definitional concern was raised in relation to cellulosic biomass produced from cover and intermediate crops, and whether the inclusion of intermediate crops in Annex IX Part B would supersede the inclusion of non-food cellulosic material in Annex IX Part A. It is the understanding of the authors that as the Commission is not permitted to remove existing entries from Annex IX, any non-food cellulosic material from cover or intermediate crops would still be eligible to be counted under Part A, and thus in practice the new entry relates only to non-cellulosic material. It would be useful if the Commission could clarify this, either by amending the language in the final additions to Annex IX, or through some accompanying guidance.



Cultivation of Castor plants in Sardinia (Italy)

There is then the practical issue of assessing whether a given batch of biofuel feedstock satisfies these definitions and requirements. A number of respondents foresaw practical difficulties in verifying compliance with the proposed eligibility conditions: for instance, in determining any impacts on main crop yields when assessing whether the introduction and/or harvesting of intermediate crops causes demand for additional land.

Some responses from the environmental community expressed concern about biofuel feedstocks derived from purpose-grown intermediate crops being included in Annex IX, because of the potential for land use change emissions from the agricultural sector if these intermediate crops did not represent truly additional agricultural production. While well designed and well executed models of sequential cropping are known to have positive impacts on productivity and land use, these respondents did not feel that the condition “provided their use does not trigger demand for additional land” was adequately defined, and were concerned about whether this requirement could be effectively implemented.

## Strengthening Annex IX with low ILUC-risk certification?

There is a clear overlap between some of the conditionality proposed for new Annex IX feedstocks and the low ILUC-risk certification framework. Adding an explicit reliance on the low ILUC-risk certification system as a basis to identify good practice for cropping systems under Annex IX would be one way to provide clarity about implementation<sup>x</sup>, and systematise the recognition of positive impacts from well-conceived land and crop management initiatives.

This connection would work because low ILUC-risk certification already covers a number of the issues related to impact and verification that were highlighted in consultation responses, and it creates a framework for recognising unused, abandoned, and severely degraded land which could be used more broadly. Moreover, many low ILUC-risk projects can deliver enhancement of soil carbon and soil structure, and low ILUC-risk certification establishes minimum requirements to avoid negative impacts on soils, landscape features, and the local ecology<sup>x</sup>.

Finally, the low ILUC-risk concept is intended to demonstrate that biofuel crop sourcing does not distort the market for edible food crops. This is clearly a priority for the Commission, which stresses that biofuels should not divert material from “the food and feed chain”.

### BIKE case studies and Annex IX

Two of BIKE’s case studies concern cellulosic feedstocks which are already on Annex IX Part A: namely, perennial grasses for second-generation ethanol, and Biogas Done Right using intermediate biomass crops. The other two case studies on castor oil and *Brassica sp.* production could also potentially be eligible for Annex IX status under the degraded land and intermediate cropping proposals quoted above.

<p><b>Castor oil for HVO</b></p> <p><b>Proposed Annex IX Part A Item (t)</b></p>	<p><b>Perennial crops for bioethanol</b></p> <p><b>Existing Annex IX Part A Item (p)</b></p>	<p><b><i>Brassica sp.</i> for renewable diesel</b></p> <p><b>Proposed Annex IX Part B Item (p)</b></p>	<p><b>Biogas Done Right for biomethane-to-liquid fuels</b></p> <p><b>Existing Annex IX Part A Item (p)</b></p>
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## Recommendation

The low ILUC-risk system presents an opportunity to enable more sustainable farming, including of food and feed crops, through sustainable rotations that would otherwise not be in place. At the same time, low ILUC-risk certification, which has been developing for some time now, could address a number of concerns associated with the expansion of Annex IX by adding an extra layer of sustainability assurance for some

feedstocks. For example, the proposed Part A entry on crops from severely degraded land could be amended to read:

*“Certified low ILUC-risk crops grown on severely degraded land that is restored through the introduction of the biofuel crop.”*

Adding a specific requirement for low ILUC-risk certification to this text would enhance its credibility by providing a form of assurance that the risks of indirect land use change and impacts on food markets are avoided. At the same time, the specific language guards against uneven implementation by Member States.

The creation of a driver for farmers to implement improved agricultural practices – ‘additionality measures’ – on their land is something to welcome. In combination with the revised legal definitions recommended in Briefing Note #2, such changes would provide an opportunity for low ILUC-risk certification to become a pillar of the EU regulatory regime for sustainable biofuels, while ensuring that farmers implementing ‘gold standard’ projects are duly recognised and rewarded.

I Hydro-treated vegetable oil, also known as ‘renewable diesel’.

II According to the GAIN reports of the USDA FAS; see <https://www.fas.usda.gov/data/european-union-biofuels-annual-2>.

III See [www.bike-biofuels.eu/case-studies/](http://www.bike-biofuels.eu/case-studies/).

IV RED II, Article 28, Paragraph 6.

V [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13484-Biofuels-updated-list-of-sustainable-biofuel-feedstocks\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13484-Biofuels-updated-list-of-sustainable-biofuel-feedstocks_en) (henceforth ‘Annex IX Consultation’).

VI Disclosure: some BIKE consortium members submitted their own independent responses.

VII RED II, Article 27, Paragraph 1(b).

VIII BIKE Briefing Note #2, “Legal definitions in the low ILUC-risk policy framework”; accessed from [www.bike-biofuels.eu/briefing-notes/](http://www.bike-biofuels.eu/briefing-notes/).

IX This is discussed further in BIKE partner Cerulygy’s stakeholder response to the Annex IX Consultation [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13484-Biofuels-updated-list-of-sustainable-biofuel-feedstocks/F3373961\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13484-Biofuels-updated-list-of-sustainable-biofuel-feedstocks/F3373961_en).

X BIKE Briefing Note #8, “Sustainability conditions for carbon farming and low ILUC-risk”; accessed from [www.bike-biofuels.eu/briefing-notes/](http://www.bike-biofuels.eu/briefing-notes/).

