Low iLUC Feedstock and ISCC Low iLUC Approach

Dr. Jan Henke, Director, Meo Carbon Solutions GmbH
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Different ways to deal with indirect land use change (iLUC) in the USA and EU

<table>
<thead>
<tr>
<th>LCFS iLUC values (gCO₂e/MJ)</th>
<th>RFS iLUC values (gCO₂e/MJ)</th>
<th>EU RED II iLUC values (gCO₂e/MJ)</th>
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</thead>
<tbody>
<tr>
<td>Corn: 19.8</td>
<td>Corn ethanol: 30.3</td>
<td>Oil crops: 55</td>
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<tr>
<td>Sugarcane: 11.8</td>
<td>Switchgrass ethanol: 14.2</td>
<td>Cereals and other starch-rich oils: 12</td>
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<tr>
<td>Corn Stover: 0</td>
<td>Soybean biodiesel: 40.8</td>
<td>Sugars: 13</td>
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<tr>
<td>Sorghum: 19.4</td>
<td>Sugarcane ethanol: 3.8</td>
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<tr>
<td>Soy: 29.1</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Canola: 14.5</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Corn Oil: 0</td>
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<td>-</td>
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<tr>
<td>UCO, Tallow: 0</td>
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</table>

- Low risk iLUC biofuels can be further used if certified
- High risk iLUC biofuels must be phased out until 2030

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Low iLUC risk biofuels are produced from crops being cultivated by avoiding the displacement of biomass for food and feed applications.

European Union: RED II

- **Low iLUC risk biofuels**: No displacement of biomass for food, feed and fibre ("additionality" required)
  - Waste, residues and forest biomass not classified as low iLUC risk
  - Feedstocks must be compliant with all sustainability criteria

- European Commission to provide guidance in Feb.
- ISCC is developing procedures to certify low iLUC biomass and biofuels
“Additionality” can be achieved by cultivating unused land and/or achieving yield increase

**Options for determining low iLUC risk biofuels**

**ISCC** certified companies can apply **low iLUC** for

1. **Unused land:**
   expanding cultivation of crops on areas, which were previously not used for agriculture

2. **Yield increase:**
   Increasing yields through improved agricultural practices and investments into better machinery

3. **Minimizing post-harvest losses:**
   Increasing yields via improved management and processing of crops
Option 1: Unused land

Definition:
Areas which were previously not used for agriculture and have a low carbon stock and biodiversity value

The land must meet requirements:
1. Agricultural production in compliance with EU sustainability criteria for biofuels
2. Land can be used for agricultural production in compliance with relevant legal and regulatory requirements as well as respecting traditional and/or customary land use rights

➢ Therefore, ISCC certification required
Verification of biomass production on previously unused land

ISCC proposes two steps approach:

1. **Land cover and utilization assessment** with GRAS (Global Risk Assessment Services), a tool analysing remote sensing data
   a) Vegetation profile – Examination through e.g. EVI
   b) Image interpretation – Satellite and high-resolution images
   c) Geo-information – Digital geoportals or cadastre systems

2. **On-site assessment** including verification of low carbon stock and biodiversity value of the land
Verification of former status as unused land is possible with GRAS

- Use of vegetation profile and image interpretation to detect the actual status of vegetation
- Find out about historical information on land use and LUC
- This is relevant to determine if ISCC compliant unused land was changed to potential low iLUC cropland
Option 2: Yield increase – Proposal ISCC

Requirements for determining yield increase

- Determination of “additional biomass” produced by crops on already cultivated land

- Yield increase must be achieved via improved land management (e.g. implementation of at least one improved agricultural practice)

- “Additional biomass” is calculated against a reference baseline

- If the “Additional biomass” share is in line with the share of biomass exported to the EU under the RED (compared to the worldwide production of this crop) the entire production of respective farms/plantation could be eligible as low iLUC risk feedstocks
The determination of a reference baseline is necessary for calculating “additionality”

- The **historical yields** of the farm or the group of farmers for the respective crop must be used to determine the baseline.

- The **average yield** must be calculated and is taken as a **baseline**.

- The **baseline** is then used to assess low **iLUC**.

- Yield increase that would have prevailed also in the absence of improved agricultural practices should not be considered low **iLUC**.
Next steps

- Further **refinement of approach** and **stakeholder discussions**
- Conducting **pilot projects** to verify the approach
- Discussions with the EU Commission
- Once available, analysis of delegated act from the Commission
- Development of overall **certification framework** for low iLUC risk biofuels
Many thanks for your attention!

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