BIKE

The policy context of low ILUC-risk biofuels

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The low ILUC-risk concept

Conceptual framing

- The climate, environmental, and socio-economic credentials of biofuels may be reduced or eliminated if they stimulate agricultural expansion and land use change
- The low ILUC-risk concept provides a mechanism for demonstrating that a batch of biofuels has avoided competition with existing food, feed, and fabric markets
  - Low ILUC-risk biofuel feedstock is said to be “additional”: extra material is produced exclusively for the biofuel sector
- Production systems for low ILUC-risk feedstock fall into three main categories:
  1. Growing a crop on land that is unused (for instance that has been abandoned or is degraded)
  2. Increasing production of an existing crop
  3. Adding an additional intermediate crop (for instance a productive winter cover crop or an intercrop) to an existing system

Using policy to valorise low ILUC-risk certification

Low trumps high

- In the Renewable Energy Directive (RED), the low ILUC-risk concept has a defined role as an antidote to “high ILUC-risk” classification, which currently applies only to palm oil
- Low ILUC-risk certification is available to other feedstock supply chains but this has no defined value under the RED
- **Since the goal of low ILUC-risk projects is to sustainably increase the productivity of our land resources, low ILUC-risk ideas could be applied more broadly, while leveraging overlaps with policy objectives outside of renewable energy policy.**

Stock taking: mapping the legal, institutional and policy frameworks in the EU and the BIKE case studies

- Identify the role of low ILUC-risk value chains and certification in energy policy
- Consider the relevance of low ILUC-risk production systems to other policy areas; for example –
  - Could a low ILUC-risk project on abandoned land help with compliance with the Nitrates Directive?
  - Could the introduction of a low ILUC-risk intermediate crop build of soil carbon and receive recognition under e.g. the Carbon Removal Regulation?
- Structured approach based on thematic policy areas >>>
  - Focus on EU policy, with examples from Member State
  - Different levels of relevance: Narrative / Value / Barrier
  - Value chain perspective (with a primary focus on land use and biomass production)
- Discuss the availability of financing to support the low ILUC-risk system, with reference to the BIKE case studies

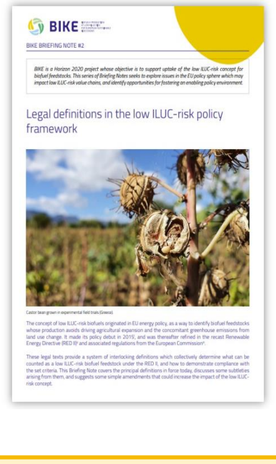
Thematic areas of policy relevance

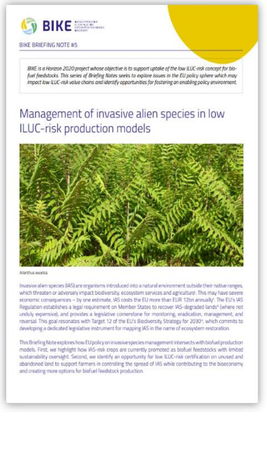
- Exemption from the High-ILUC Cap
- Contribution to Renewable Energy Targets
- ILUC Emissions Factors
- Land Conversion Emissions
- Unused and Marginal Land
- Habitats and Pollution
- Soil Carbon Management
- Soil Health and Water Conservation
- Rural Social Measures
- Contribution to Agricultural Sustainability Goals
- Energy Feedstock Reporting
- Reporting Standardisation
- Project Finance
- Information Access
- Other Narrative Relevance

See BIKE Deliverable D5.1 at www.bike-biofuels.eu/resources/

Identification of enabling policies at EU level and formulation of recommendations

- Based on the overall EU policy analysis, we identified enabling policies which might facilitate future market uptake across the critical value chain stages
- Summarised in the form of briefing notes (list of titles on the next slide)
  - Energy and biofuels policy
  - Agriculture policy
  - Environment and ecology policy
  - Carbon removals policy
  - Finance policy





www.bike-biofuels.eu/briefing-notes/

Identification of enabling policies at EU level and formulation of recommendations

www.bike-biofuels.eu/briefing-notes/

1. Policy to support low ILUC-risk agriculture

2. Legal definitions in the low ILUC-risk policy framework

3. Low ILUC-risk in EU Member State policy

4. Additionality measures for low ILUC-risk eligibility

5. Invasive alien species and land abandonment in the low ILUC-risk system

6. Low ILUC-risk crops and Annex IX

7. Soil carbon crediting and the low ILUC-risk system

8. Sustainability conditions for carbon farming and low ILUC-risk

9. CAP subsidies for sustainable low ILUC-risk feedstock production

10. Ecologically appropriate crops and restoration of unused land

11. Sustainability indicators for food and biofuel production

12. Low ILUC-risk concept in the EU Taxonomy

13. Soil sampling and soil organic carbon across agricultural landscapes

14. Funding options for low ILUC-risk projects

Published

In the pipeline

Example takeaways

- Resolve definitional issues in the RED II formulation of low ILUC-risk
- Recognise the potential application of low ILUC-risk production systems to a wider variety of crops (beyond palm)
- Potential role for ILUC-risk certification to meet requirements for some proposed Annex IX entries
- Expand the list of additionality measures to incorporate other sustainable land management practices
- Integrate low ILUC-risk and carbon farming certification to enhance uptake
- Target funding programmes for commercial scale-up of new agricultural approaches
- …

Development of a supportive framework for the BIKE case studies & Transferability Matrix

Four BIKE case studies of low ILUC-risk production systems

Castor oil for HVO, grown on unused / severely degraded land

Perennial grasses for 2G ethanol, grown on unused / severely degraded land

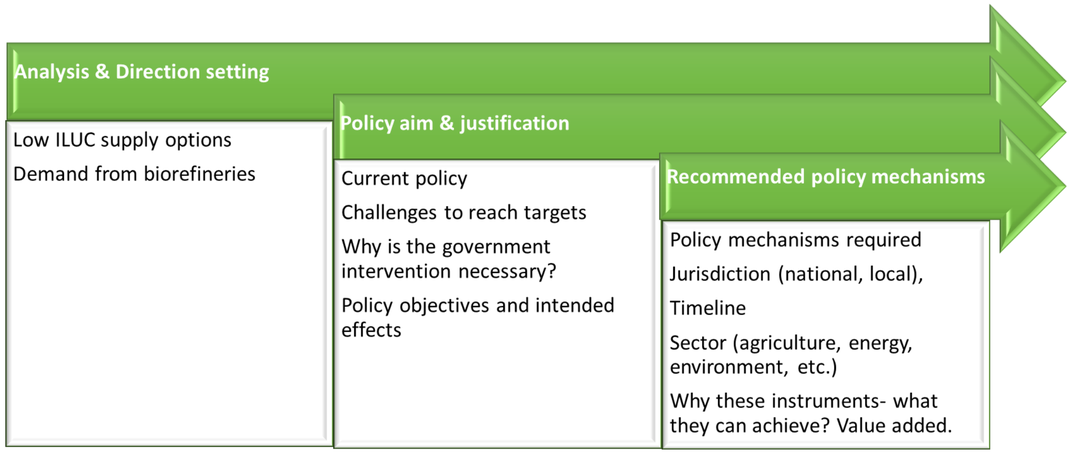
Brassica sp. for HVO, grown as a productive intermediate crop

BiogasDoneRight for biomethane-to-liquid, using sequential cropping

https://www.bike-biofuels.eu/case-studies/

Barriers to scaling

- The BIKE project has considered four case studies
  - More info to come in a later presentation!
- The final stage of policy analysis (ongoing) uses these to:
  - Contextualise previous policy framework recommendations
  - Identify barriers to effective scaling



Development of a supportive framework for the BIKE case studies & Transferability Matrix

Transferability matrix

- Understand which traits from the case studies assessed in BIKE can be transferred across European regions
- Cross-reference other BIKE analysis on selected crops: i) prospects for future yield growth, and/or ii) suitability for cultivation on unused / abandoned / severely degraded land
- Business case opportunity with presence of biorefineries in the region
- Sustainability considerations
- How can current policies enable the implementation of low ILUC-risk cases in the understudy regions?
- Lessons to avoid

Regions	Crops	Yields	Marginal land availability	Breakeven costs	Existing biorefinery (Y; N)	Sustainability	low ILUC Case study Type 1	low ILUC Case study 2	Likelihood	How can policy enable	Lessons to avoid?

Discussion points

- Using policy to expedite implementation of low ILUC-risk projects between now and 2030
  - Member State-specific incentives
- Identifying low ILUC-risk projects (BIKE case studies or otherwise) that offer a good value proposition under existing policy
  - Coherence in existing policy
- Looking at project types and identifying opportunities – intermediate crops, productivity, unused land

BIKE

Thank you!

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RE-CORD (Coordinator)

КАПЕ CRES

Cerulogy

CIB European Biogas

etaflorence renewable energies

eXergia Climate Change Consultants

FAO Fiat Panis

ISCC International Sustainability & Carbon Certification

Imperial College London

NAIK Research Institute of Agricultural Economics

Wageningen University & Research

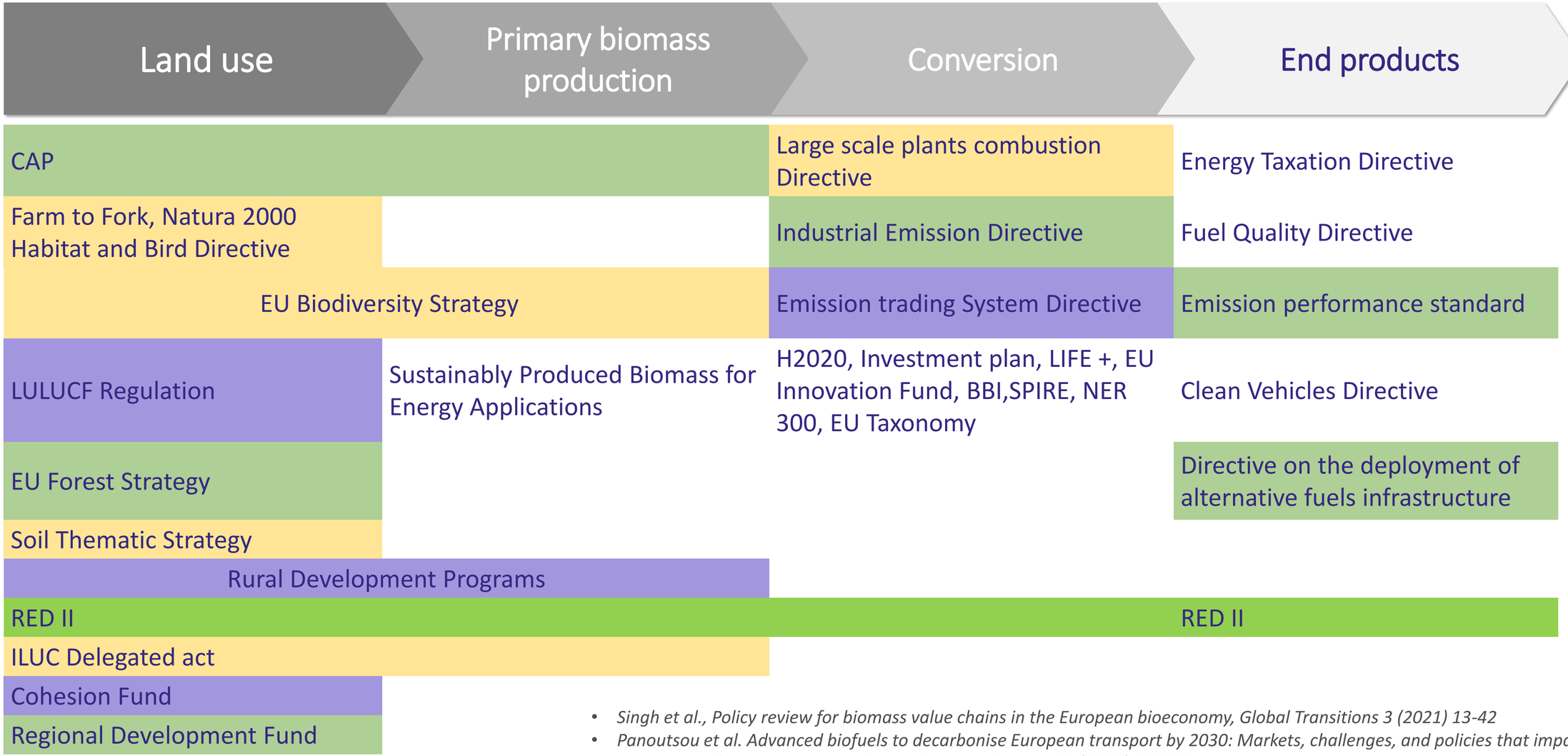
UPM Biofore Beyond Fossils

eni

Back-up Slides

Overview on current EU Policy legal framework

Identification of policy items (strategies, directives, regulations, etc.) along the BIKE value chain



- *Singh et al., Policy review for biomass value chains in the European bioeconomy, Global Transitions 3 (2021) 13-42*
- *Panoutsou et al. Advanced biofuels to decarbonise European transport by 2030: Markets, challenges, and policies that impact their successful market uptake, Energy Strategy Reviews 34 (2021) 100633*

Overview on current EU Policy legal framework

Structured extraction of information based on a tailor-made developed template

#	Header Name	Description	Example
1	#	Item number in the big policy table	--
2	Policy Family	The broad policy "ecosystem" in question	RED2, CAP, Waste Directive, etc.
3	Policy Instrument	Within the broader policy umbrella, this is the specific text under consideration	A delegated act, a national implementation in the form of primary legislation, an official guidance document, etc.
4	Year	Year of document publication	--
5	URL	Link to the text of the policy instrument	--
6	Policy Type	The type of policy we are considering (which hints at its reach and applicability)	EU directive, regulation, national primary legislation, etc.
7	Region Covered	Which country or countries are bound by the policy	EU, France, etc.
8	Excerpt Focus	The general topic that the text excerpt considers	Land use, sustainability, administration, etc.
9	Policy Section	Which part of the policy text the excerpt is taken from	E.g. for an EU directive, this could be Recitals, Definitions, Articles, or Annexes
10	Excerpt Reference	Detailed location of the excerpt text	E.g. Article 1, Paragraph 2, Page 3
11	Excerpt Text	Quotation of the relevant text	--
12	Obligated Parties	Who has responsibility to provide support	European Commission, certification bodies, etc.
13	Supported Parties	Who might benefit from the policy excerpt; stakeholders are numbered for reference in subsequent columns	Fuel suppliers, producers, etc.
14	Description of Potential Opportunity	Narrative interpretation of the excerpt, emphasising the relevance to BIKE	E.g. this policy will expand the market for low-ILUC feedstock
15	Benefits of the Potential Opportunity	More detailed description of how each (numbered) stakeholder will benefit; if there are multiple benefits, these are labelled e.g. (1a),(1b),…	E.g. Certification bodies will have reduced administrative burden
16	Value Calculation	A (very loose) formula suggesting how one could calculate the monetray value of the opportunity for each (numbered) stakeholder	E.g. potential low-ILUC feedstock production (MJ/year) "multiplied by" value of (single-counted) contribution to transport target (EUR/MJ)
17	Value Estimate	A rough numerical estimate of the value, with the exact calculation table referenced in square brackets	E.g. in EUR/l
18	Questions for Research	Specific questions to inform our understanding of the excerpt/opportunity/value; these could be answered with further research	E.g. Are there biofuels which do not currently satisfy carbon intensity thresholds, but which could become eligible with a "bonus offset" to their CI as mandated by RED2?
19	Questions for Discussion	These are more open-ended questions to be discussed with BIKE partners	E.g. Should low-ILUC certified feedstocks be exempt from the food cap?
20	Priority	Indicates the level of relevance that the excerpt / opportunity has for BIKE, and what should be investigated first.	{ 0, 0.5, 1 }
21	Partner Comments 1 (include name & date)	Space for BIKE partners to leave short comments and further questions; should include name of partner and date of comment	This point is not very relevant. Chris (Cerulogy), 12/06/2021
22	Partner Comments 2 (include name & date)	Follow-up comments from other partners	I think it is. Cato (Cerulogy), 13/06/2021
23	Partner Comments 3 (include name & date)	Follow-up comments from other partners	Cato is right. Popi (ICL), 14/06/2021
24	… Add more comments columns as required …		

First screening of the policies with respect to their relevance to the “BIKE narrative”

Preliminary framing of interactions among actors along the value chain

Quantification (to the extent possible) of the impact on the “BIKE narrative”

Collective assessment – capturing the different perspectives

Overall BIKE approach – EU policy framework assessment

Within the overarching scope of BIKE, a dedicated workstream on the EU policy framework has been established (WP5)

1. Evaluate the legal, institutional and policy frameworks
2. Enable the market uptake of low ILUC-risk biofuels
3. Provide policy recommendations

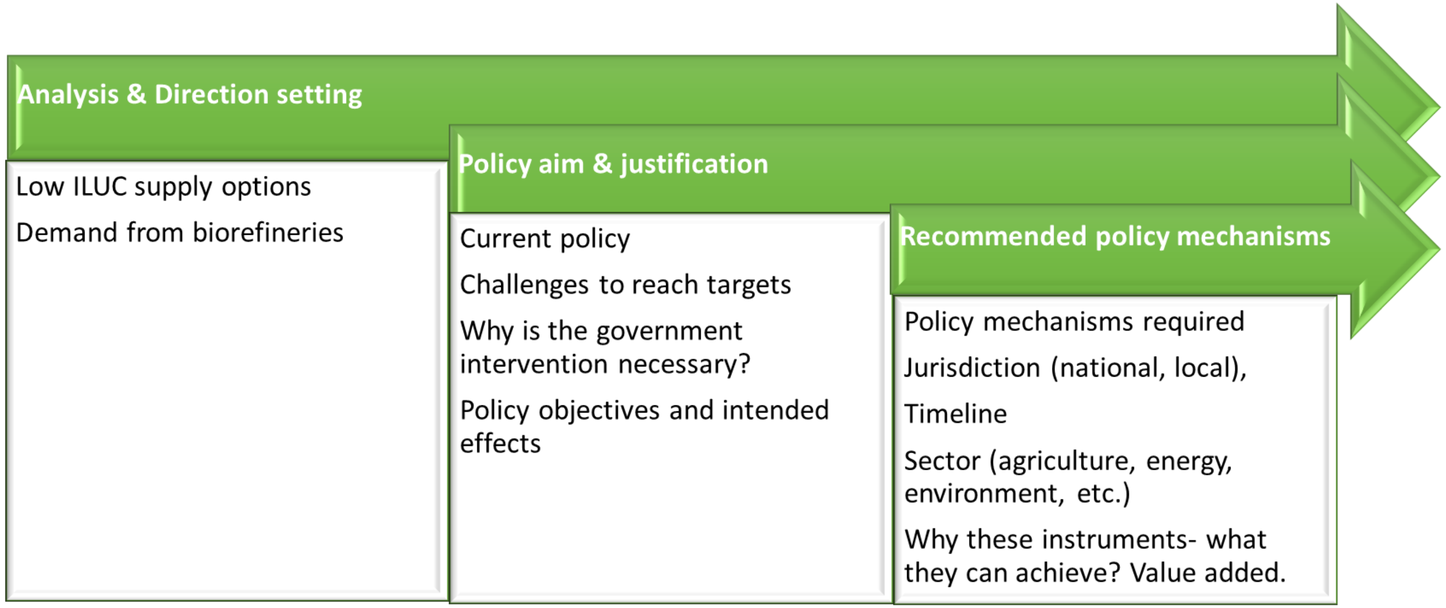
- Stock taking: mapping the legal, institutional and policy frameworks in the EU and the BIKE case studies
- Identification of enabling policies at EU level & formulation of policy recommendations (Briefing Notes)
- Development of a supportive framework for the BIKE case studies & Transferability Matrix

Scrap

Development of a supportive framework for the BIKE case studies & Transferability Matrix

From Popi

- **Low ILUC support framework for the BIKE case studies**
  - Low ILUC supply and demand in the understudy case regions (*BIKE project analysis as documented in D2.1, D2.2, D2.3, D3.1, D3.2, D3.3*)
  - Policy aim and justification
    - Current policy (D5.1)
    - Challenges for the implementation of low ILUC business cases & why is the governmental intervention necessary?
  - Policy mechanisms required
    - Enabling policies across the value chain stages in order to facilitate future market uptake of low ILUC risk



Brief introduction to the low ILUC-risk concept

Proposed slide to serve as introduction to LIR concept. We have to check with Chris (he might has another idea from the guidehouse project?). If we keep it like this, some cut in the text is needed.

Framings of the low ILUC-risk concept and opportunities stemming from low ILUC-risk certification

- Three framings of interpretation
  - The sustainable agriculture framing considers how additional agricultural production for biofuels can be delivered as part of a programme of improving the sustainability of European agricultural landscapes.
  - The additionality framing is focused on the specific question of how additional biofuel feedstock production can be delivered
  - The Renewable Energy Directive (RED) framing is the specific but more limited definition of low ILUC-risk feedstock given by the RED II and associated implementing regulations. The RED II definition is restricted to food and feed crops (i.e., starch rich crops, sugar crops, and oil crops grown as the main crop) produced through increased yields or on areas otherwise not used for crop production.
- Low ILUC-risk certification would offer advantages for industries producing / using these feedstocks
  - Ability for crop producers to continue supplying the European market.
  - Ability for fuel producers (refineries) to continue using the same feedstocks in their refining operations
  - Avoidance of higher production costs, in situations where low ILUC-risk certification on existing feedstocks will be less expensive than buying an alternative feedstock