

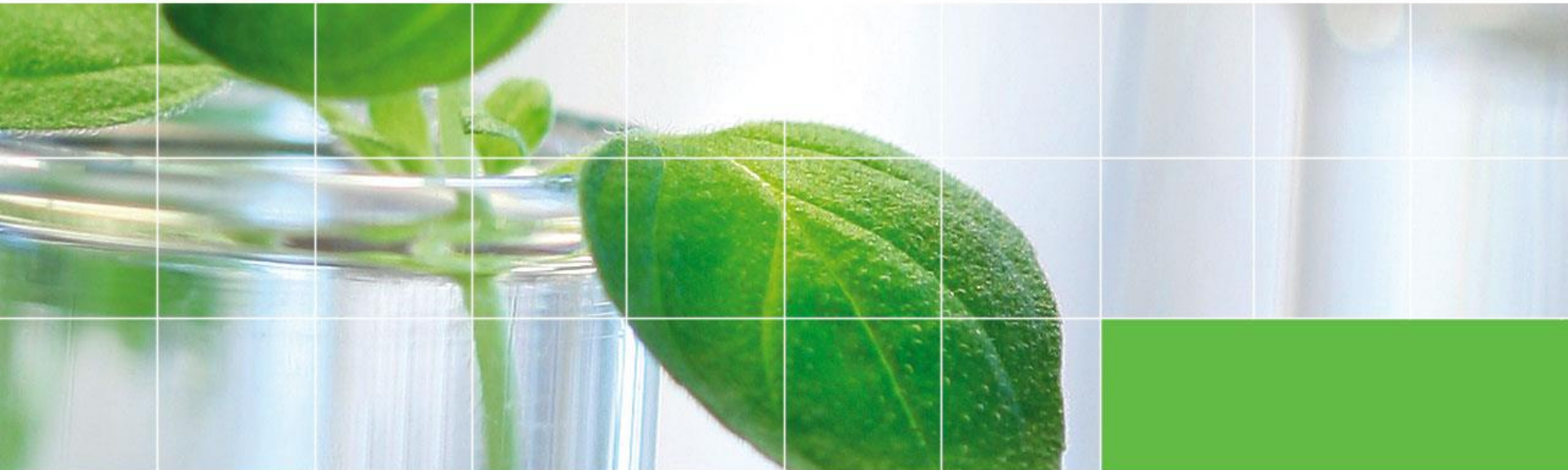


# CORE - JetFuel

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# Discussion Panel III on Sustainability

## Johannes Michel, Nancy Young



# 1. Environmental Sustainability Criteria

- While the term “sustainability” encompasses environmental, social, and economic aspects according to many frameworks, for purposes of this discussion, we are focusing on environmental sustainability. Obviously, the assessment of GHG lifecycle emissions is a critical environmental sustainability criterion.
- *Recognizing that various countries and regions may have different environmental criteria and priorities, what do you view as the top two environmental criteria in addition to lifecycle GHG emissions that should be addressed for confirming that aviation alternative fuels are sustainable?*



# 1. Environmental Sustainability Criteria

- *ICAO's Committee on Aviation Environmental Protection (CAEP) has developed a proposed methodology that all countries would use for determining lifecycle GHG emissions from alternative aviation fuel for purposes of the GMBM. Some in the ICAO discussions take the view that a minimum lifecycle emissions-savings threshold should be established (e.g., 50% or greater emissions reductions) if any credit is to be given. Others take the position that whatever emissions savings are demonstrated under the agreed methodology should be credited.*
- **What are the pros/cons of specifying a minimum threshold**



## 2. Renewable Feedstock Potentials

- In Europe, there is an ongoing scientific and political discourse regarding the sustainable biomass potential that is available for the production of alternative aviation fuels – also taking into account competing uses such as the automotive as well as the heating and cooling sector.
- *Do you think that a diversification of feedstock sources coupled with good agricultural practices in the cultivation stage will be sufficient for meeting the GHG reduction targets of the aviation sector while safeguarding sustainability?*
- *Which types of feedstocks (algae, residues/wastes, lignocellulosic energy crops etc.) offer the highest sustainable potential in the US?*



### 3. Lignocellulosic Biomass

- Particularly the fact that production of lignocellulose does in most cases not compete with food production (or the arable land the feedstock is cultivated on) and therefore shows a low risk of inducing indirect land use changes, which is seen as one of the main advantages of this type of biomass compared to conventional energy crops. However, converting lignocellulose in an effective and efficient way is still one of the main challenges both from a technological and economically viable point of view.
- *Are similar challenges noticeable in the US? How is the utilization of lignocellulose as a bio-jet feedstock progressing?*
- *Particularly in the case of lignocellulose, logistical barriers (collection of biomass and transport distances) may hinder the economic viability of utilizing this type of feedstock for bio-jet production. What measures would you recommend to overcome these obstacles?*



### 3. Lignocellulosic Biomass

- *Agricultural / forestry **wastes and residues** become an increasingly interesting feedstock option for the aviation sector, as making them available is comparably cheap and according to the RED emission-free.*
  - *Considering the relatively low profit margin bio-kerosene achieves in comparison to other bioenergy applications as well as its demanding certification process, what kind of measures would you recommend motivating feedstock and fuel producers supplying the aviation industry with their respective product?*



### 3. Lignocellulosic Biomass

- Stakeholders from politics, industry and academia have often voiced the need for a harmonization of sustainability criteria in the RED and RFS2, for example with respect to the different land conversion restrictions. (Under RFS2, land on which feedstock is cultivated must have been to be cleared prior to Dec 19, 2007 and maintained for this purpose since. RED uses the date of January 2008 for its land conversion restriction).
- *Are there relatively easy measures (such as agreeing on a common reference date for a land conversion restriction provision) that could help foster trade of sustainable feedstocks and therefore positively impact on the deployment of alternative fuels, both in the US and the EU?*
- *In which (additional) areas of alternative aviation fuels would you recommend stronger cooperation / where would it make sense in your point of view?*

